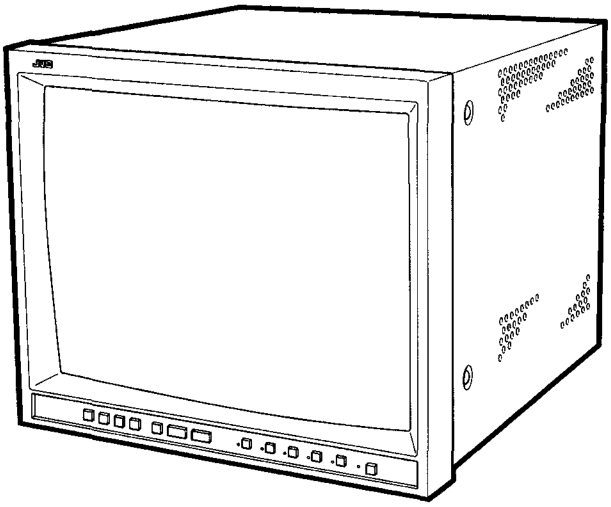
JVC

SERVICE MANUAL

COLOR VIDEO MONITOR

BASIC CHASSIS
DP3B1

TM-1650SDU



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No.51702
May 2000

SPECIFICATIONS

Item		Content
Color system		PAL / NTSC 3.58
Picture tube		16"(44cm) measured diagonally, flat square type, 90° deflection, in-line gun, vertical line trio type (phosphor stripe pitch of 0.42 mm)
Effective screen size		13" × 9-7/8"(W × H) / 16-1/4"(Dianonal) 330mm × 250mm (W × H) / 410mm (Diagonal)
Scanning frequency		(H)15.734 kHz (NTSC) 15.625 kHz (PAL) (V)59.94 Hz (NTSC) 50Hz (PAL)
Horizontal resolution		550TV line or more (Y/C input mode)
Color Temperature		6500K ; x = 0.313, y = 0.329 9300K ; x = 0.283, y = 0.297
High Voltage		23.7kV~26.3kV
Signal input / output		
INPUT A	**COMPOSITE VIDEO**	BNC terminal : 1 bridge-connected output with automatic termination 1V(p-p) 75Ω (negative sync)
INPUT B	**COMPOSITE VIDEO**	BNC terminal : 1 bridge-connected output with automatic termination 1V(p-p) 75Ω (negative sync)
	Y/C SEPARATE	Mini-DIN(4pin) : 1 bridge-connected output with automatic termination Y : 1.0V(p-p) 75Ω (negative sync) C (Burst) : 0.286V(p-p) 75Ω (NTSC) : 0.3V(p-p) 75Ω (PAL)
INPUT RGB/COMPONENT (Switch in MENU)	**RGB**	BNC terminal : R : 0.7V(p-p) 75Ω G : 0.7V(p-p) 75Ω B : 0.7V(p-p) 75Ω SYNC : 0.3~4V 75Ω (multi negative sync)
	COMPONENT	BNC terminal : Y : 1V(p-p) 75Ω (negative sync) R-Y : 0.7V(p-p) 75Ω B-Y : 0.7V(p-p) 75Ω
	SDI	BNC terminal : Active throught out SMPTE 259M-complient, 75Ω
AUDIO	**INPUT A** **INPUT B** **INPUT RGB/SDI /COMPO**	Monaural 0.5V(rms), high-impedance RCA terminal : 1 bridge-connected output with automatic termination
Audio power output		1W (Monaural)
Speaker		3-1/8"(8cm) round × 1 8Ω
Power requirements		120V AC, 50/60 Hz
Power consumption		1.3A maximum
Operation temperature		0~40°C (32~104° F)
Operation humidity		20~80% (non-condensing)
Dimension (W × H × D)		15-5/8" × 13-1/4" × 16-7/8" 395mm × 334mm × 427.5mm
Mass		39.0lbs (17.7kg)

Design & specifications are subject to change without notice.

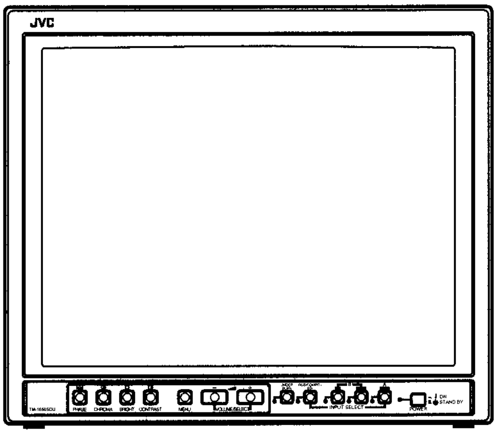
OPERATING INSTRUCTIONS

JVC®

COLOR VIDEO MONITOR

TM-1650SDU

INSTRUCTIONS



For Customer Use:
Enter below the Serial No. which is located on the rear of the cabinet. Retain this information for future reference.

Model No. : TM-1650SDU
Serial No. :

May 2000 No.51702

Thank you for purchasing this JVC color video monitor. Before using it, read and follow all instructions carefully to take full advantage of the monitor's capabilities.

SAFETY PRECAUTIONS

WARNING :
TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS MONITOR TO RAIN OR MOISTURE.

CAUTION :
To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.

This monitor is equipped with a 3-blade grounding-type plug to satisfy FCC rule. If you are unable to insert the plug into the outlet, contact your electrician.

When installing this unit, be sure that it is situated close to an easily accessible electrical outlet.
The SDI circuit is always active when the unit is plugged into an AC outlet.

FCC INFORMATION (U.S.A. only)

CAUTION: Changes or modification not approved by JVC could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

■ PRECAUTIONS

- Use only the power source specified on the unit. (120 V AC, 50/60 Hz)
- Keep flammable material, water, and metal objects away from the unit – especially the interior of the unit.
- This unit incorporates high voltage circuitry.
  For your own safety and that of your equipment, do not attempt to modify or disassemble this monitor.
  There are no user-serviceable parts inside.
- Unplug the monitor when you're not going to be using it for a long period.

■ HANDLING

- Avoid shocks or vibrations. These may damage the unit and cause it to malfunction.
- Do not block the ventilation slots.
- Do not expose this unit to high temperatures.
  Extended exposure to direct sunlight or a heater could deform the cabinet or cause the performance of internal components to deteriorate.
- Do not place the unit near appliances generating strong electric or magnetic fields. There can generate picture noise and instability.
- Keep the monitor clean by wiping the cabinet and CRT screen with a piece of soft cloth. Do not apply thinner or benzine. These chemicals can damage the finish and erase printed letters. When the unit is excessively dirty, use a diluted neutral cleanser, then wipe away the cleanser with a dry cloth.

SCREEN BURN

- It is not recommended to keep a certain still image displayed on screen for a long time as well as displaying extremely bright images on screen. This may cause a burning (sticking) phenomenon on the screen of cathode-ray tube. This problem does not occur as far as displaying normal video playback motion images.

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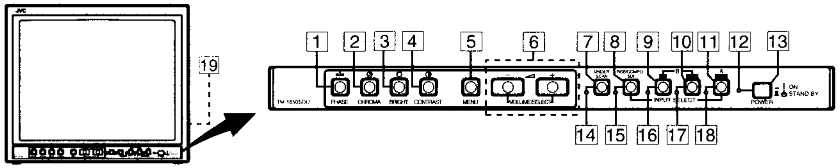
CONTROLS AND FEATURES

FRONT VIEW

<Front Panel>



1 Phase button [PHASE]
Press this button to set the picture hue adjustment mode. Adjust the value with the VOLUME/SELECT buttons. Also used as a control button in the menu function mode.

2 Chroma button [CHROMA]
Press this button to set the picture color density adjustment mode. Adjust the value with the VOLUME/SELECT buttons. Also used as a control button in the menu function mode.

3 Brightness button [BRIGHT ☼]
Press this button to adjust picture brightness. Adjust the value with the VOLUME/SELECT buttons. Also used as a control button in the menu function mode.

4 Contrast button [CONTRAST ◑]
Press this button to adjust picture contrast. Adjust the value with the VOLUME/SELECT buttons. Also used as a control button in the menu function mode.

5 Menu button [MENU]
Displays and disappears the <MENU> screen.
Pressing the PHASE button with the Menu button depressed will display the <SET-UP MENU> screen.

6 Volume/Select buttons [VOLUME/SELECT – ◺ +]
Adjusts the speaker volume. Also used as a control button in the menu function mode.

7 Under Scan button [UNDER SCAN]
Reduces the screen size to display the whole screen. Press the button again to quit Under Scan.

8 Input RGB/COMPO./SDI button [INPUT SELECT RGB/COMPO./SDI]
Selects the video signal input to the RGB/COMPO. (analog RGB/Y, B-Y, R-Y) or SDI terminal and the audio signal input to the AUDIO RGB/COMPO./SDI terminal on the rear panel. When selected, the input RGB/COMPO./SDI indicator 15 lights.

Note:

- RGB, COMPONENT or SDI signals can be selected in the <MENU> screen.

9 Input B (Y/C) button [INPUT SELECT B Y/C]
Selects the video signal input to the VIDEO B (Y/C) terminal and the audio signal input to the AUDIO B terminal on the rear panel. When selected, the input B (Y/C) indicator 16 lights.

10 Input B (VIDEO) button [INPUT SELECT B VIDEO]
Selects the video signal input to the VIDEO B terminal and the audio signal input to the AUDIO B terminal on the rear panel. When selected, the input B (VIDEO) indicator 17 lights.

11 Input A (VIDEO) button [INPUT SELECT A VIDEO]
Selects the video signal input to the VIDEO A terminal and the audio signal input to the AUDIO A terminal on the rear panel. When selected, the input A (VIDEO) indicator 18 lights.

12 Power indicator
Lights in green when the power is ON.
Lit : When the power is on.
Unlit : When the power is set to stand-by.

13 Power switch [POWER]
Press this switch to turn the power on or set it to stand-by mode.
ON : Power is turned on.
STAND BY : Power is set to stand-by mode.

14 UNDER SCAN indicator
Lights in green when UNDER SCAN is selected.

15 Input RGB/COMPO./SDI indicator
Lights in green when Input RGB/COMPO./SDI is selected.

16 Input B (Y/C) indicator
Lights in green when Input B (Y/C) is selected.

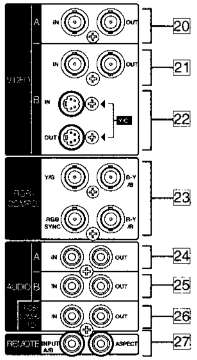
17 Input B (VIDEO) indicator
Lights in green when Input B (VIDEO) is selected.

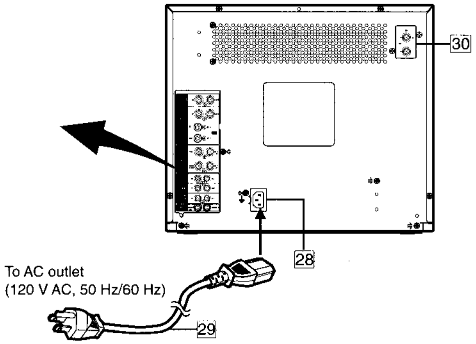
18 Input A (VIDEO) indicator
Lights in green when Input A (VIDEO) is selected.

19 Speaker
A built-in speaker is located inside the right side panel when the monitor is viewed from the front.

REAR VIEW

<Rear Panel>





To AC outlet
(120 V AC, 50 Hz/60 Hz)

20 Video A terminals [VIDEO A IN/OUT]
Video signal input (IN) and output (OUT) terminals.
The output terminal is bridge-connected.
IN : Video signal input terminal
OUT : Bridge-connected video signal output terminal

Notes:

* For corresponding audio signals, use the AUDIO A terminals 24.
* Also refer to BASIC CONNECTION EXAMPLE on page 13.

21 Video B terminals [VIDEO B IN/OUT]
Video signal input (IN) and output (OUT) terminals.
The output terminal is bridge-connected.
IN : Video signal input terminal
OUT : Bridge-connected video signal output terminal

Notes:

* For corresponding audio signals, use the AUDIO B terminals 25.
* Also refer to BASIC CONNECTION EXAMPLE on page 13.

22 Video B (Y/C) terminals [VIDEO B Y/C IN/OUT]
Y/C (S-Video) signal input (IN) and output (OUT) terminals.
The output terminal is bridge-connected.
IN : Y/C-separated (S-video) signal input terminal
OUT : Bridge-connected Y/C-separated (S-video) signal output terminal

Notes:

* For corresponding audio signals, use the AUDIO B terminals 25.
* Also refer to BASIC CONNECTION EXAMPLE on page 14.

23 RGB/COMPO. terminals
Input terminals for analog RGB/Y, B-Y, R-Y signals.
* The RGB SYNC input terminal is for the external synchronization (composite synchronization) signal when an analog RGB signal is input.

Notes:

- For corresponding audio signals, use the AUDIO RGB/COMPO./SDI terminal 26.
- When an analog RGB signal is input, be sure to input the external synchronization signal to the RGB SYNC terminal.
- Also refer to BASIC CONNECTION EXAMPLE on page 14.

24 Audio A terminal [AUDIO A IN/OUT]
Input (IN) and output (OUT) terminals for the audio signal corresponding to the VIDEO A terminals 20. The output terminal is bridge-connected.
IN : Audio signal input terminal
OUT : Bridge-connected audio signal output terminal

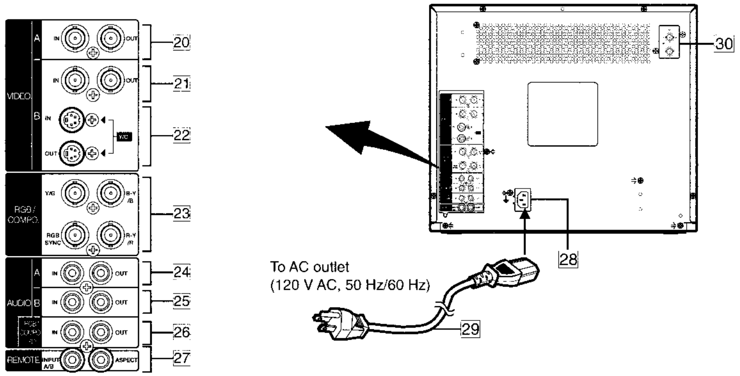
Notes:

* For corresponding video signals, use the VIDEO A terminal 20.
* Also refer to BASIC CONNECTION EXAMPLE on page 13.

CONTROLS AND FEATURES (cont'd)

REAR VIEW

<Rear Panel>



25 Audio B terminals [AUDIO B IN/OUT]

Input (IN) and output (OUT) terminals for the audio signals corresponding to the VIDEO B terminals 21 or VIDEO B (Y/C) terminals 22. The output terminal is bridge-connected.

IN : Audio signal input terminal
OUT : Bridge-connected audio signal output terminal

Notes:

* For corresponding video signals, use the VIDEO B terminals 21 or VIDEO B (Y/C) terminals 22.
* Also refer to BASIC CONNECTION EXAMPLE on page 13.

26 Audio RGB/COMPO./SDI terminals [AUDIO RGB/COMPO./SDI IN/OUT]

Input (IN) and output (OUT) terminals for the audio signals corresponding to the RGB/COMPO. terminals 23 or SDI terminals 30. The output terminal is bridge-connected.

IN : Audio signal input terminal
OUT : Bridge-connected audio signal output terminal

Notes:

- For corresponding video signals, use the RGB/COMPO. terminals 23 or SDI terminals 30.
- Also refer to BASIC CONNECTION EXAMPLE on pages 14 and 15.

27 Remote terminals [REMOTE INPUT A/B, ASPECT]

Remote terminals for external control. Selecting INPUT A or INPUT B and the ASPECT RATIO is available via external control. External control is set in the <SET-UP MENU> screen.
To use external control, you must build a switch cable and connect it to the REMOTE terminals.

External control functions	External control switch	
	Open circuit (open)	Closed circuit (short)
ASPECT RATIO	4–3 (4:3)	16–9 (16:9)
INPUT A/B	INPUT A	INPUT B

Note:

- Also refer to BASIC CONNECTION EXAMPLE on pages 13 – 15.

28 AC Inlet [AC IN]

Power input connector. Connect the provided AC power cord 29 to an AC outlet (120 V AC, 50 Hz/60 Hz).

29 Power cord

Connects the provided power cord (120 V AC, 50 Hz/60 Hz) to the AC IN connector.

30 SDI terminals

Input (IN) terminal for component serial digital signals and active through output (OUT) terminal.

Notes:

- For corresponding audio signals, use the RGB/COMPO./SDI terminals 26.
- Also refer to BASIC CONNECTION EXAMPLE on page 15.

HOW TO HANDLE BASIC OPERATIONS

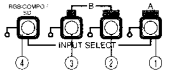
BASIC OPERATION

1. *Press the POWER switch to turn on the power.*

ON : Power turns ON. (Power indicator: lit)
STAND BY : Power is set to STAND BY. (Power indicator: unlit)

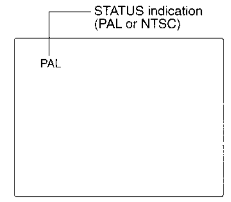
2. *Press the INPUT SELECT button to choose input.*

Select video/audio signals input to terminals on the rear panel. The selected INPUT SELECT indicator lights in green.



INPUT SELECT button	Terminals on the rear panel	
	Video signal input	Audio signal input
① Input A (VIDEO)	VIDEO A terminal	AUDIO A terminal
② Input B (VIDEO)	VIDEO B terminal	AUDIO B terminal
③ Input B (Y/C)	VIDEO B (Y/C) terminal	
④ Input RGB/COMPO./SDI	RGB/COMPO. terminal (RGB/Y, B-Y, R-Y) SDI terminal	AUDIO RGB/COMPO./SDI terminal

* RGB, COMPONENT or SDI signals can be selected in the <MENU> screen.

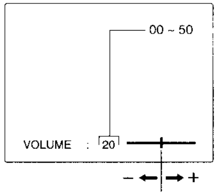


About the STATUS indication

- With the COLOR SYSTEM setting set to AUTO mode, when you turn on the power or select inputs, the color system indication appears for about 3 seconds on the screen while PAL or NTSC signals are being detected.
  It does not appear when receiving a B/W signal or when no signal is input. Refer to page 8 for more information about COLOR SYSTEM setting and page 10 for more information about STATUS indication setting.

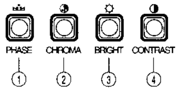
3. *Press the VOLUME/SELECT button to adjust the speaker volume.*

Press this button to display the speaker volume level on the screen.
+ : The Built-in speaker volume is increased. (00 → 50)
– : The Built-in speaker volume is decreased. (50 → 00)
* Screen indication will disappear about 10 seconds after operating.

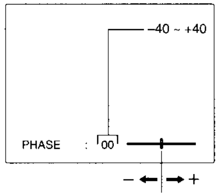


PICTURE ADJUSTMENT

1. *Press select button corresponding to the item you want to adjust.*



The item you select is displayed on the screen.
① PHASE ( ) : Phase control
② CHROMA ( ) : Chroma control
③ BRIGHT (☼) : Brightness control
④ CONTRAST (◑) : Contrast control



2. *Adjust with the VOLUME/SELECT button.*

Items	VOLUME/SELECT button	
	–	+
PHASE (Phase)	reddish	greenish
CHROMA (Chroma)	lighter	deeper
BRIGHT (Brightness)	darker	brighter
CONTRAST (Contrast)	lower	higher

* Screen indication will disappear about 10 seconds after operating.

Notes:

- Phase control is effective only in the NTSC color system mode.
- Chroma control is not effective when receiving B/W or when no signal is input. (Except when a component signal is input.)
- When CHROMA is adjusted to "– 40," the picture becomes less colorful.
- "NO EFFECT" is displayed (for about 3 seconds) when your selected function has no effect.

HOW TO USE THE MENU FUNCTIONS

DISPLAY AND SELECTION IN THE <MENU> SCREEN MODE (SETTING)

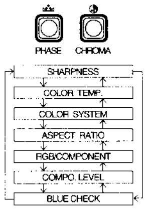
You can set the following menu items.
Set them depending on your needs.

- SHARPNESS
- COLOR TEMP.
- COLOR SYSTEM
- ASPECT RATIO
- RGB/COMPONENT
- COMPO. LEVEL
- BLUE CHECK

1. Press the MENU button.

The <MENU> screen is displayed.
* The screen automatically disappears when no operation is performed after about 5 minutes.

2. Press the PHASE ( ) or CHROMA ( ) button to select MENU items.



A selection mark (▶) is put next to the selected item.

Front panel button	Function displayed	Contents
PHASE ( )	▼	Forward selection mark (▶)
CHROMA ( )	▲	Reverse selection mark (▶)

3. Press the VOLUME/SELECT button to set.

Front panel button	Function displayed	Contents
VOLUME/ SELECT (+)	+	Increase (to max. value)
	▶	Forward the setting value
VOLUME/ SELECT (–)	–	Decrease (to min. value)
	◀	Reverse the setting value

Menu items	Purpose	Setting range
SHARPNESS	Picture sharpness	00 ⟷ +1 ⟷ ·········· ⟷ +39 ⟷ +40
COLOR TEMP.	Color temperature of white balance	9300 ⟷ 6500
COLOR SYSTEM	Color system	AUTO ⟷ NTSC ⟷ AUTO ⟷ PAL
ASPECT RATIO	Aspect ratio	4 – 3 ⟷ 16 – 9
RGB/COMPONENT	Input RGB/COMPONENT/SDI signal system	RGB ⟷ COMPO. ⟷ SDI
COMPO. LEVEL	Component or SDI level	0 → +01 ⟷ ·········· ⟷ +9 ⟷ +10 0 → –01 ⟷ ·········· ⟷ –39 ⟷ –40
BLUE CHECK	Blue check ON/OFF	OFF ⟷ ON

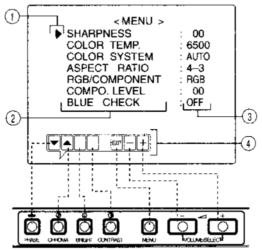
* In normal use, leave the COLOR SYSTEM setting to AUTO.
  If the receiving condition is not good in AUTO position, set it to the exclusive mode corresponding to the receiving color system (NTSC or PAL).
* COMPO. LEVEL can be set for component input and SDI input independently.

4. If you want to set the other menu items, repeat procedures 2 and 3.

5. Press the MENU button to quit.

Front panel button	Function displayed	Contents
MENU	EXIT	Quit (or Release) the <MENU> screen

<MENU> screen



<Front panel button>

① Selection mark (▶): Indicates the menu item you select.
② Menu item: Menu items you can select.
③ Setting display: Indicates the current settings (value).
④ Function display: The functions of the front panel buttons (7 buttons on the left) correspond to the function displayed.

Function displayed	Contents
▼	Forward the menu item.
▲	Reverse the menu item.
–	Lower the adjustment value. (to the minimum)
+	Raise the adjustment value. (to the maximum)
▶	Forward the setting value.
◀	Reverse the setting value.
EXIT	Exits the <MENU> screen.

Notes:

- When the screen aspect ratio is set to 16 - 9 (16:9) in ASPECT RATIO, the picture will be vertically reduced.
- When REMOTE is displayed in the ASPECT RATIO or RGB COMPONENT status, it is not possible to set these items because ASPECT REMOTE or INPUT REMOTE in the <SET-UP MENU> is set to valid. Use the external control function or set ASPECT REMOTE or INPUT REMOTE to invalid (OFF) to make setting possible.
- The BLUE CHECK function is not memorized. After the power is turned off and on again, BLUE CHECK is automatically set to OFF. Refer to page 9 for more information about the BLUE CHECK function.
- When selecting COMPONENT or SDI, adjust CHROMA GAIN (COLOR) in the COMPO. LEVEL item first, then input a standard signal from the device used with the monitor and adjust CHROMA GAIN with BLUE CHECK. Refer to page 9 for more information about initializing COMPO. LEVEL.

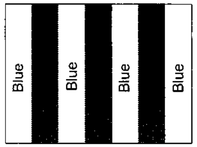
How to use the BLUE CHECK function

Input the standard color-bar signal for your TV system and display it on the screen. When the BLUE CHECK function is ON, the red and green signals are cut and only the blue signal is displayed. The BLUE CHECK function adjusts and checks CHROMA (COLOR) GAIN and PHASE.
Make sure that COMPO. LEVEL has been initialized when a component signal is input.

[Procedure]

1. Input the standard color-bar signal for your TV system and display it on the screen.
2. Set the BLUE CHECK function in the <MENU> screen to ON and then press the MENU button to quit the <MENU> screen.
3. Press the CHROMA button to adjust the chroma so that the blue bars on the left and right sides of the screen have the same brightness.
4. (Only when an NTSC signal is input) Press the PHASE button to adjust the phase so that the two blue bars at the center of the screen have the same brightness.
5. (Only when an NTSC signal is input) Repeat procedures 3 and 4 for the adjustment so that all four blue bars on the screen have the same brightness.

When the adjustment is complete, set the BLUE CHECK function to OFF.



Note:

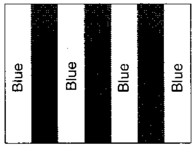
- The BLUE CHECK function is not memorized. After the power is set to stand-by mode then turned on again, BLUE CHECK is automatically set to OFF.

● Initializing COMPO. LEVEL (when an analog component or SDI signal is input)

When an analog component or SDI signal is input, be sure to adjust (initialize) the COLOR offset in COMPO. LEVEL.

[Procedure]

1. Input the standard color-bar signal for your TV system and display it on the screen.
2. Set the BLUE CHECK function in the <MENU> screen to ON.
3. Select COMPO. LEVEL in the <MENU> screen and then adjust it with VOLUME +/– buttons so that the blue bars on the left and right sides of the screen have the same brightness.
4. Quit the <MENU> screen with the BLUE CHECK function ON.
5. Make sure that the blue bars on the left and right sides of the screen have the same brightness.
6. Repeat procedures 3, 4 and 5 for the adjustment so that the blue bars on the left and right sides of the screen have the same brightness.



Note:

- COMPO. LEVEL can be set for component input and SDI input independently.

HOW TO USE THE MENU FUNCTIONS (cont'd)

DISPLAY AND SELECTIONS IN THE <SET-UP MENU> MODE (SETTING)

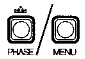
You can set the following set-up menu items.

- H. POSITION
- V. POSITION
- WHITE BALANCE
- CONTROL LOCK
- STATUS DISPLAY
- INPUT REMOTE
- ASPECT REMOTE

Notes:

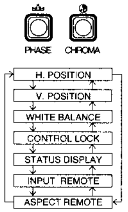
- Parameters for H. POSITION and V. POSITION can be set separately depending on the video input (Input A (VIDEO), Input B (VIDEO), Input B (Y/C) or Input RGB/COMPO./SDI) selected by the input select buttons on the front panel.
  Select the required video input with the input select buttons on the front panel in advance.
- WHITE BALANCE can be set individually at 6500 or 9300 for the color temperature value.
  Set COLOR TEMP. to the value 6500 or 9300 in the <MENU> screen in advance.

1. While pressing the MENU button, press the PHASE (∴) button.



The <SET-UP MENU> screen is displayed.
* The screen automatically disappears when no operation is performed after about 5 minutes.

2. Press the PHASE (∴) or CHROMA (◐) button to select the desired menu item.



A selection mark (▶) is put next to the selected item.

Front panel button	Function displayed	Contents
PHASE (∴)	▼	Forward selection mark (▶)
CHROMA (◐)	▲	Reverse selection mark (▶)

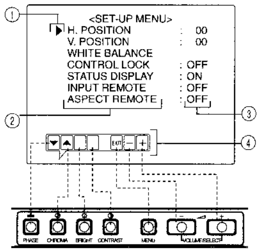
3. Press the VOLUME/SELECT button to set.

Front panel button	Function displayed	Contents
VOLUME/ SELECT (+)	+	Increase (to max. value)
	▶	Forward the setting value
	CUTO	Selects CUT OFF setting screen
VOLUME/ SELECT (–)	–	Decrease (to min. value)
	◀	Reverse the setting value
	DRV	Selects DRIVE setting screen

Notes:

- For the WHITE BALANCE setting, select the CUT OFF or DRIVE setting screen, then select the buttons (PHASE/CHROMA/BRIGHT) corresponding to the function indicated (R/G/B).
- Press the EXIT (MENU) button to return to the <SET-UP MENU> screen.

<SET-UP MENU> screen



<Front panel button>

① Selection mark (▶): Indicates the menu item you select.
② Menu item: Menu items you can select.
③ Setting display: Indicates the current settings (value).
④ Function display: The functions of the front panel buttons (7 buttons on the left) correspond to the function displayed.

Function displayed	Contents
▼	Forward the menu item.
▲	Reverse the menu item.
–	Lower the adjustment value. (to the minimum)
+	Raise the adjustment value. (to the maximum)
▶	Forward the setting value.
◀	Reverse the setting value.
EXIT	Exit the <SET-UP MENU> screen. (release)
DRV	Selects DRV adjustment.
CUTO	Selects CUT OFF adjustment.
R	Adjusts red signal level.
G	Adjusts green signal level.
B	Adjusts blue signal level.
DISP	Turns the ON-SCREEN display on or off. (This function is effective only in the DRIVE or CUT OFF adjustment mode.)

Set-up menu items		Purpose	Settings
H. POSITION		Adjusts the horizontal position of the screen (+ : Horizontal position shifts to the right/–: Horizontal position shifts to the left)	–05↔–04←••••••→–01↔00↔+01←••••••→+04↔+05
V. POSITION		Adjusts the vertical position on the screen (+: Vertical position moves down/–: Vertical position moves up)	–05↔–04←••••••→–01↔00↔+01←••••••→+04↔+05
WHITE BALANCE		Adjusts the white balance	Selects DRIVE (DRV) or CUT OFF (CUTO) adjustment. Screen setting is changed to the selected setting mode. Select R/G/B buttons corresponding to the function display to adjust.
DRIVE	R.DRIVE	Adjusts red level	–20↔–19←••••••→–01↔00↔+01←••••••→+19↔+20
	B.DRIVE	Adjusts blue level	–20↔–19←••••••→–01↔00↔+01←••••••→+19↔+20
CUT OFF	R. CUT OFF	Adjusts red cut off	–20↔–19←••••••→–01↔00↔+01←••••••→+19↔+20
	G. CUT OFF	Adjusts green cut off	–20↔–19←••••••→–01↔00↔+01←••••••→+19↔+20
	B. CUT OFF	Adjusts blue cut off	–20↔–19←••••••→–01↔00↔+01←••••••→+19↔+20
CONTROL LOCK		Sets the operation buttons on the front panel to control lock mode	OFF ↔ ON
STATUS DISPLAY		Sets the status display of the color system	ON↔OFF
INPUT REMOTE		Sets external control of input selection (INPUT A/B)	OFF ↔ A/B
ASPECT REMOTE		Sets external control of the aspect ratio	OFF ↔ ON

4. To set the other set-up menu items, repeat the procedures 2 and 3.

5. Press the MENU button to quit.

Front panel button	Function displayed	Contents
MENU	EXIT	Quit (or Release) the <MENU> screen

Notes:

- When the CONTROL LOCK function is set to ON, pressing operation buttons on the front panel will display the message "CONTROL LOCK ON!" on the screen for about 3 seconds.
- The CONTROL LOCK function is maintained even when the power is turned off.
- To turn off the CONTROL LOCK function, while holding the MENU button press the PHASE button. Then set the CONTROL LOCK function to OFF.
- Even when the CONTROL LOCK function is set to ON, the following operations are available:
  - Power Switch operation
  - Volume control with the VOLUME/SELECT buttons
  - External control when INPUT REMOTE or ASPECT REMOTE is valid
  - Display or disappear of the <SET-UP MENU> screen.
- The STATUS DISPLAY function can be set to display (ON) or not display (OFF) the present color system when the power is turned on or the input signal is changed. Refer to page 7 for more information.
- When the INPUT REMOTE function is valid (A/B), pressing the Input A, Input B or Input RGB/COMPO./SDI buttons will display the message "REMOTE ON!" on the screen for about 3 seconds.
- The INPUT REMOTE function is valid (A/B) after quitting the <SET-UP MENU> screen.

HOW TO INITIALIZE THE SETTING

SCREEN DISPLAY AND SELECTIONS IN THE <SET-UP MENU> RESET MODE

You can set <MENU> and <SET-UP MENU> screen items, picture adjustment items and the volume level to their factory-set (initial) values.

1. Press the Power switch to set the unit to STAND BY (▮ ⏻) mode.

2. While pressing both MENU button and PHASE ( ) button, press the Power switch to turn the power ON (▬ I).

The <SET-UP MENU> RESET screen is displayed.
* The screen automatically disappears when no operation is performed after about 5 minutes.

Note:

- The <SET-UP MENU> RESET screen will not be displayed if the MENU or PHASE buttons are pressed for a very short time. Keep pressing them until the display screen appears.

3. Setting

● Initialization is required.

Press the CONTRAST (◑) button.
* Initialization is completed, and the <SET-UP MENU> RESET screen disappears.

● Initialization is not required.

Press the VOLUME/SELECT [+] or [–] button.
* Initialization is aborted, and the <SET-UP MENU> RESET screen disappears.

<SET-UP MENU> RESET screen

<SET-UP MENU> RESET

Are you sure ?
"Yes" then <CONTRAST>
"No" then <+> or <–>

Initial settings

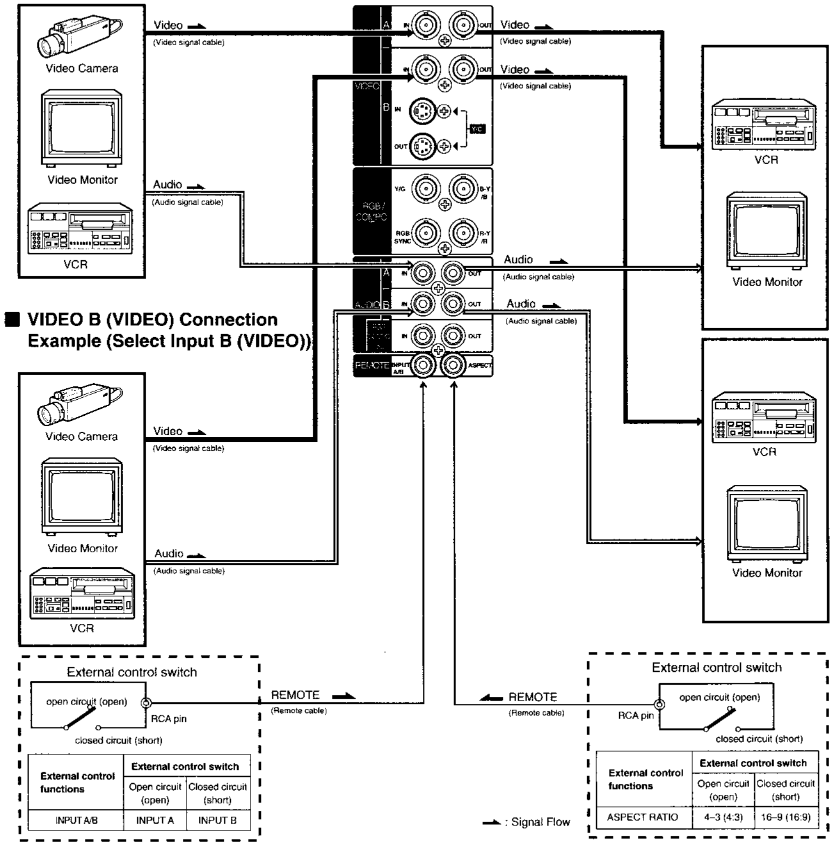
Sorts	Functions (Items)	Initialization (setting)
<MENU> screen	SHARPNESS	00
	COLOR TEMP.	6500
	COLOR SYSTEM	AUTO
	ASPECT RATIO	4–3
	RGB/COMPONENT	RGB
	COMPO. LEVEL	00
	BLUE CHECK	OFF
<SET-UP MENU> screen	H. POSITION	00
	V. POSITION	00
	WHITE BALANCE	
	R. CUT OFF	00
	G. CUT OFF	00
	B. CUT OFF	00
	R. DRIVE	00
	B. DRIVE	00
	CONTROL LOCK	OFF
	STATUS DISPLAY	ON
	INPUT REMOTE	OFF
	ASPECT REMOTE	OFF
Picture adjustment	PHASE	00
	CHROMA	00
	CONTRAST	00
	BRIGHT	00
Volume	VOLUME	20

BASIC CONNECTION EXAMPLE

Notes:

- Before connecting your system, make sure that all units are turned off.
- The illustration below shows some examples of different connections. Terminal connections may differ depending on the component connected. Be sure to refer to the instructions provided with the unit(s) you are connecting.
- Each pair of input (IN) and output (OUT) terminals are bridge-connected.
- If you're not connecting any equipment to a bridged output (OUT) terminal, be sure not to connect any other cables to the bridged output (OUT) terminal as this will cause the terminating resistance switch to open (auto terminate function).
- When making a bridge connection, connect the input (IN) and output (OUT) terminals on the monitor to separate video components. (For example, if both terminals are connected to the same VCR, resonance may occur except during playback. This is caused by the same video signal "looping" between the VCRs, and is not a malfunction.)
- Select the video input (INPUT A (VIDEO), INPUT B (Y/C) or INPUT RGB/COMPO./SDI) with the INPUT SELECT buttons on the front panel.
- The ASPECT RATIO or INPUT A/B settings can be controlled via the REMOTE terminal by setting ASPECT REMOTE or INPUT REMOTE in the <SET-UP MENU> screen to valid. (Refer to pages 10 and 11.)

■ VIDEO A Connection Example (Select Input A (VIDEO))



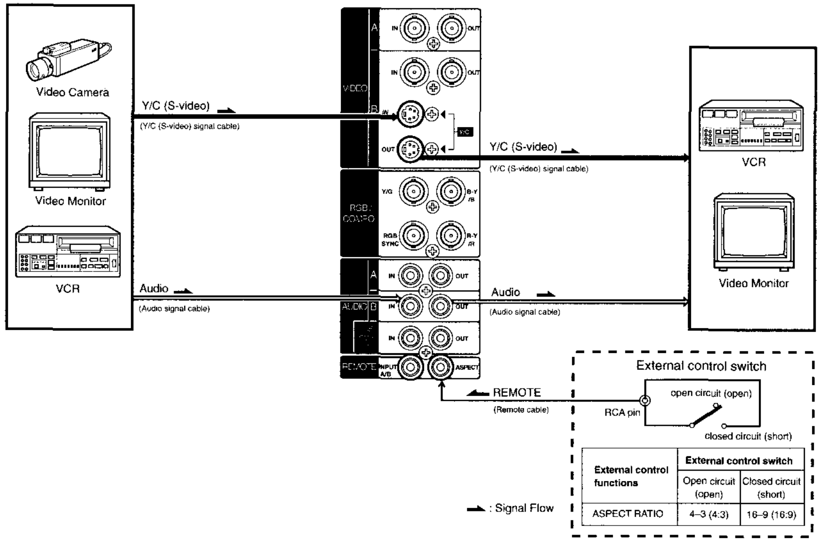
■ VIDEO B (VIDEO) Connection Example (Select Input B (VIDEO))

External control functions	External control switch	
	Open circuit (open)	Closed circuit (short)
INPUT A/B	INPUT A	INPUT B

External control functions	External control switch	
	Open circuit (open)	Closed circuit (short)
ASPECT RATIO	4–3 (4:3)	16–9 (16:9)

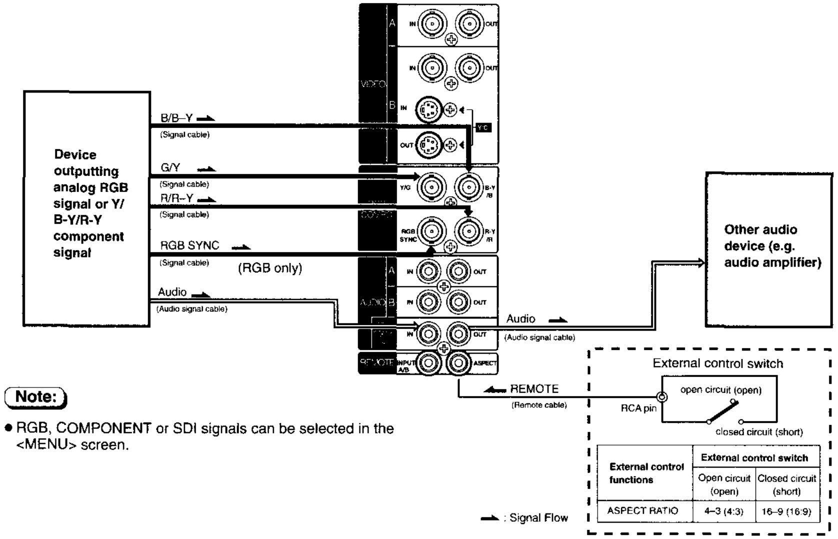
BASIC CONNECTION EXAMPLE (cont'd)

■ VIDEO B (Y/C) Connection Example (Select Input B (Y/C))



External control functions	External control switch	
	Open circuit (open)	Closed circuit (short)
ASPECT RATIO	4-3 (4:3)	16-9 (16:9)

■ RGB/COMPO. Connection Example

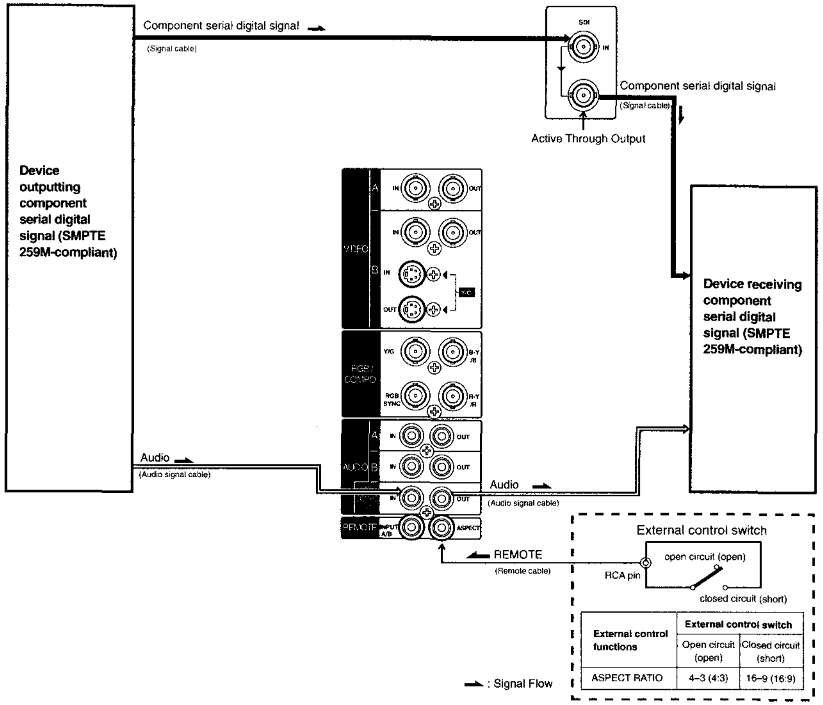


External control functions	External control switch	
	Open circuit (open)	Closed circuit (short)
ASPECT RATIO	4-3 (4:3)	16-9 (16:9)

Note:

- RGB, COMPONENT or SDI signals can be selected in the <MENU> screen.

■ SDI Connection Example



External control functions	External control switch	
	Open circuit (open)	Closed circuit (short)
ASPECT RATIO	4-3 (4:3)	16-9 (16:9)

Notes:

- RGB, COMPONENT or SDI signals can be selected in the <MENU> screen.
- The audio signal embedded in the component serial digital signal cannot be used with this unit. Use the analog output signal instead.
- Even when the power is set to stand-by mode, the signal from the IN terminal is output to the Active Through output terminal. (Power is always supplied to the SDI circuit.)
  When the power cord is disconnected from the AC outlet, the SDI circuit operation is interrupted and thus the signal is not output from the Active Through terminal.

TROUBLESHOOTING

Solutions to common problems related to your monitor are described here. If none of the solutions presented here solves the problem, unplug the monitor and consult a JVC-authorised dealer or service center for assistance.

Problems	Points to be checked	Measures (Remedy)
No power supply.	Is the power plug loosened or disconnected?	Firmly insert the power plug.
No picture with the power on.	Is the video signal output from the connected component?	Set the connected component correctly.
	Is the input signal selected properly?	Select the required video signal input with the Input select button. (See page 7.)
	Is the video cable disconnected?	Connect the video signal cable firmly. (See pages 13 – 15.)
No sound.	Is the audio signal output from the connected component?	Set the connected component correctly.
	Is the volume output set to minimum?	Adjust the speaker volume with the VOLUME/ SELECT button. (See page 7.)
	Is the audio cable disconnected?	Connect the audio signal cable firmly. (See pages 13 – 15.)
Shaking picture.	Is the monitor close to a device generating a strong magnetic field?	Move the device away from the monitor until the picture stabilizes.
No colors, wrong color, or dark picture.	Is the color system selected properly?	Set COLOR SYSTEM in the <MENU> screen to AUTO. (See page 8.)
	Has the picture control setting (CONTRAST, BRIGHT CHROMA or PHASE) been changed?	Set each picture control to the standard setting. (See page 7.)
	Is the RGB/COMPONENT/SDI signal selected properly?	Check the RGB/COMPONENT setting in the <MENU> screen. (See page 8.)
Unnatural, irregularly colored, or distorted picture.	Is the monitor close to a speaker, magnet or any other device generating a strong magnetic field?	Move the device away from the monitor and turn the monitor's power off. Wait at least 30 minutes, then turn the power on again.
Dark stripes appear at the top and bottom of the screen, picture vertically squeezed.	Is the aspect ratio set to 16:9?	Set ASPECT RATIO in the <MENU> screen to [4 : 3 (4 – 3)]. (See page 8.) When controlling externally, ASPECT RATIO should be set to [4 : 3 (4 – 3)]. (See pages 13 – 15.)
The overall picture size is too small.	Has the UNDER SCAN button been pressed so the UNDER SCAN indicator lights?	Press the UNDER SCAN button to turn off the indicator. (See page 4.)
Function buttons on the front panel do not function.	Has control of the buttons been locked? (Has the CONTROL LOCK function been set to ON?)	Set CONTROL LOCK in the <SET-UP MENU> screen to OFF. (See pages 10 and 11.)
The INPUT SELECT buttons do not function.	Is input selection under external control? (Has the INPUT REMOTE function been set to valid (A/B)?)	Set INPUT REMOTE in the <SET-UP MENU> screen to OFF. (See pages 10 and 11.)

The following are not malfunctions:

- When a bright still image (such as a white cloth) is displayed for a long period, it may appear to be colored. This is due to the structure of the cathode ray tube and will be deleted when another image is displayed.
- You experience a mild electric shock when you touch the picture tube. This phenomenon is due to a normal buildup of static electricity on the CRT and is not harmful.
- The monitor emits a strange sound when the room temperature changes suddenly. This is only a problem if an abnormality appears on the screen as well.
- If two or more monitors are operated next to each other, their images may shake or be distorted. This phenomenon is due to mutual interference; it is not a malfunction. Move the monitors away from each other until the interference disappears or turn the power off on any monitor that is not being used.

SPECIFICATIONS

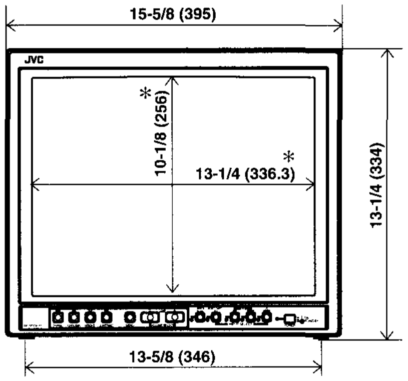
■ **Type** : Color video monitor
■ **Color system** : PAL, NTSC (3.58)
■ **Picture tube** : 16" measured diagonally, flat-square type, 90° deflection, in-line gun, vertical line trio type (phosphor stripe pitch 0.42 mm)
■ **Effective screen size** : Width 13" (330 mm)
Height 9-7/8" (250 mm)
Diagonal 16-1/4" (410 mm)
■ **Scanning frequency** : (H) 15.734 kHz (NTSC)
15.625 kHz (PAL)
(V) 59.94 Hz (NTSC)
50 Hz (PAL)
■ **Horizontal resolution** : 550 TV lines or more (Y/C input mode)
■ **Input terminals**
VIDEO A : Composite video:
1 line, BNC connector x 2,
1 V (p-p), 75 Ω, negative sync
(bridge connection possible, auto termination)
VIDEO B : Composite video:
1 line, BNC connector x 2,
1 V (p-p), 75 Ω, negative sync
(bridge connection possible, auto termination)
Y/C-separated:
1 line, mini-DIN 4-pin connector x 2
Y: 1.0 V (p-p), 75 Ω
C: 0.286 V (p-p), 75 Ω (NTSC)
0.3 V (p-p), 75 Ω (PAL)
(bridge connection possible, auto termination)
RGB/COMPO. : Analog RGB:
1 line, BNC connector x 3
R, G, B: 0.7 V (p-p), 75 Ω
RGB sync:
0.3 V (p-p) – 4 V (p-p), 75 Ω
Y, R-Y, B-Y component:
1 line
Y: 1 V (p-p), 75 Ω, negative sync
R-Y, B-Y: 0.7 V (p-p), 75 Ω
SDI : Component serial digital (SMPTE 259M-compliant) x 1
525/60 625/50 auto select, BNC connector x 2
Component serial digital active through x 1
AUDIO A : 1 line (monaural), RCA pin x 2
0.5 V (rms), high-impedance
(bridge connection possible)
AUDIO B : 1 line (monaural), RCA pin x 2
0.5 V (rms), high-impedance
(bridge connection possible)
AUDIO RGB/COMPO./ SDI : 1 line (monaural), RCA pin x 2,
0.5 V (rms), high-impedance
(bridge connection possible)
REMOTE INPUT A/B : 1 line, RCA pin x 1
REMOTE ASPECT : 1 line, RCA pin x 1
■ **Audio power output** : 1 W (monaural)
■ **Built-in speaker** : 3-1/8" (8 cm) round x 1
impedance of 8 Ω
■ **Environmental conditions** : Operation temperature:
0 °C – 40 °C (32 °F – 104 °F)
Operation humidity:
20 % – 80 % (non-condensing)
■ **Power requirements** : 120 V AC, 50 Hz / 60 Hz
■ **Power consumption** : 1.3 A (120 V AC)
■ **Dimensions** : Width 15-5/8" (395 mm)
Height 13-1/4" (334 mm)
Depth 16-7/8" (427.5 mm)
■ **Weight** : 39.0 lbs (17.7 kg)
■ **Accessory** : AC power cord [7.9 ft (2.4 m)] x 1

** Illustrations used in this manual are for explanatory purposes only. The appearance of the actual product may differ slightly.*
** Dimensions and weight are approximate.*
** E. & O. E. Design and specifications subject to change without notice.*

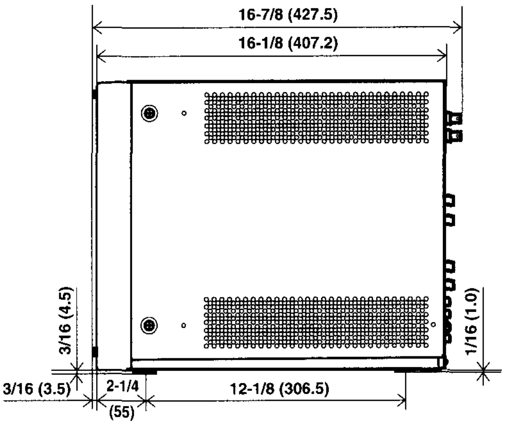
■ Dimensions

Unit : inch (mm)

< Front View >

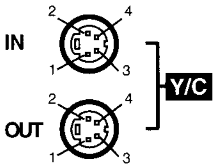


< Side View >



* Asterisks (*) are used to indicate front panel dimensions.

■ Y/C (Mini DIN 4 pin) terminal specification



Pin No.	Signal
1	GND (Y)
2	GND (C)
3	Y
4	C

TM-1650SDU COLOR VIDEO MONITOR

JVC PROFESSIONAL PRODUCTS COMPANY
DIVISION OF US JVC CORP.
1700 Vallery Road Wayne, NJ07470
JVC CANADA INC.
21 Finchdene Square, Scarborough Ontario M1X 1A7

LCT0725-001A-H
0200-Tu-U-JMT

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SAFETY PRECAUTIONS

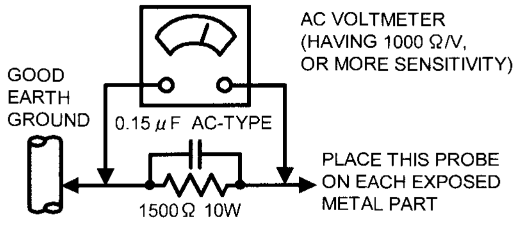
1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Use isolation transformer when hot chassis.**
   The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
5. **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
   Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (⏚) side GND and EARTH : (⊜) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
   If above note will not be kept, a fuse or any parts will be broken.
6. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
7. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
8. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.
9. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.
10. **Isolation Check**
    (Safety for Electrical Shock Hazard)
    After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

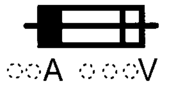
- **Alternate Check Method**

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).

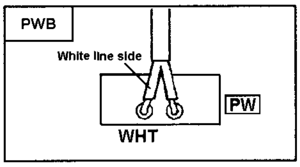


11. **High voltage hold down circuit check.**
    After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.
    See item **"How to check the high voltage hold down circuit"**.

This mark shows a fast operating fuse, the letters indicated below show the rating.



POWER CORD REPLACEMENT WARNING.
Connecting the white line side of power cord to "WHT" character side.



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

[CAUTION]

* Even with the power switch off, some parts of the set are live. Be sure to disconnect the power cord from the AC outlet before disassembly and reassembly.

REMOVING THE TOP COVER

1. Remove the **8** screws marked Ⓐ .
2. Slightly spread the bottom of the top cover. Shift the cover rearward and raise it upward to remove it.

REMOVING THE REAR PANEL

- After removing the top cover.

1. Remove the **3** screws marked Ⓑ and **2** screws maked Ⓒ .
2. Shift the top portion of the rear panel slightly rearward and raise it upward to remove it.

REMOVING THE TERMINAL BRACKET

- Remove the top cover and rear panel.

1. Remove the **8** screws marked Ⓓ and **1** screw marked Ⓔ .
2. Slightly shift the terminal bracket rearward and raise it upward to remove it.

REMOVING THE TRANSF. HOLDER

- Remove the top cover and rear panel.

1. Remove the **2** screw marked Ⓕ .
2. Lift up the TRANSF. HOLDER to unhook the claw, and then withdraw it toward you as shown in Fig. 1.

REMOVING THE SDI BRACKET

- Remove the top cover and rear panel.

1. Remove the **4** screw marked Ⓖ .
2. Lift up the SDI BRACKET to unhook the claw, and remove it.

REMOVING THE POWER UNIT ASS'Y

- Remove the top SDI bracket.

1. Remove the **2** screw marked Ⓗ . And remove it.

REMOVING THE SDI UNIT

- Remove the SDI bracket.

1. Remove the **2** screws marked Ⓘ . And remove it.

REMOVING THE CHASSIS

- Remove the top cover, rear panel and TRANSF. HOLDER.

1. Withdraw the chassis backward. If neceaasry, take off the wire clamp, connectors etc.

REMOVING THE SPEAKER HOLDER

- Remove the top cover.

1. Remove the **1** screw marked Ⓙ .
2. Shift the speaker holder, and then lift it up to remove it.

REMOVING THE SPEAKER

- Remove the speaker holder.

1. Push the claws slightly, and shift the speaker to downward, and remove it away (Fig. 2).

CHECKING THE PW BOARD

To check the back side of the PW board.

(1) Pull out the chassis.

(2) Erect the chassis vertically so that you can easily check the back side of the PW board.

[CAUTION]

* When erecting the chassis, be careful so that there will be no contacting with other PW board.

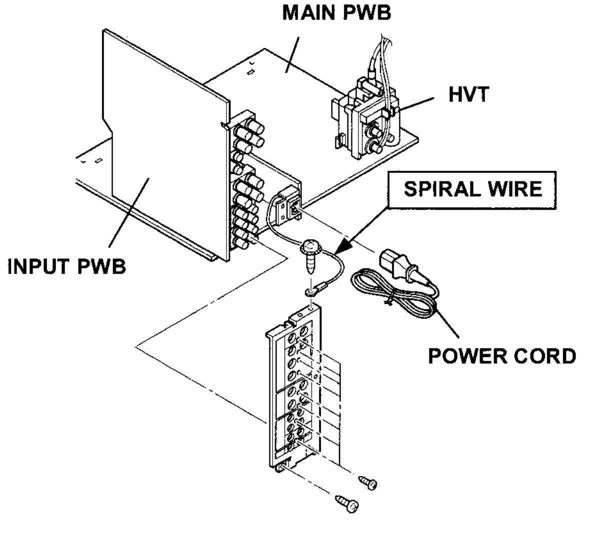
* Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.

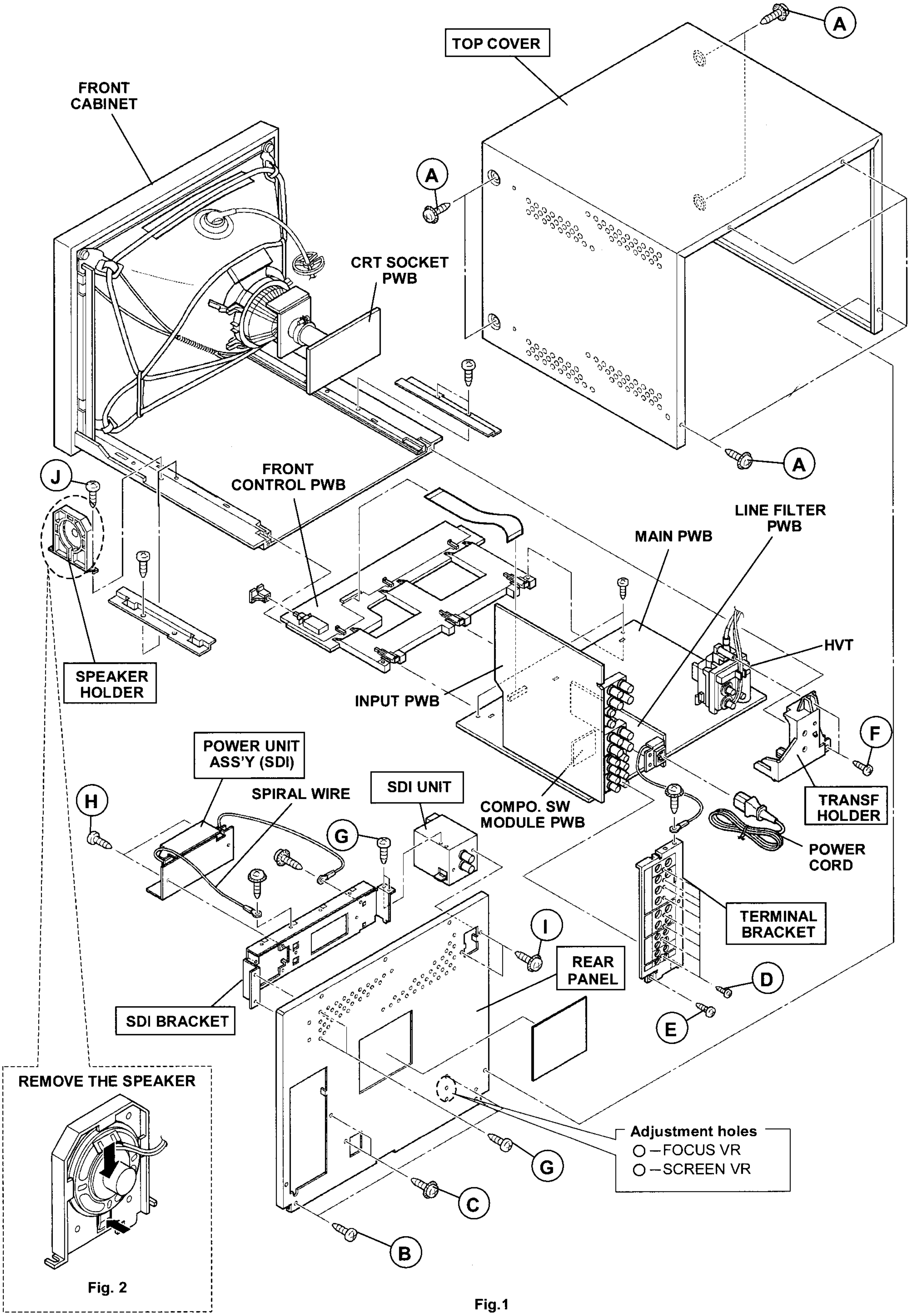
WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together. Should it be inadvertently removed, be sure to tie the wires With a new cable tie.

CAUTION

- **Befor turning on power, make sure that the spiral wire (yellow / green) are properly connected.**





REMOVE THE SPEAKER

Fig. 2

Fig.1

REPLACEMENT OF MEMORY IC

1. MEMORY IC

This model uses memory IC. In the memory IC is memorized data for correctly operating the video-chroma and deflection circuits.
When replacing memory IC, be sure to use IC written with the initial values of data.

2. PROCEDURE FOR REPLACING MEMORY IC

(1) Power off
Switch the power off and unplug the power plug from the wall outlet.

(2) Replace IC
Be sure to use memory IC written with the initial data values.

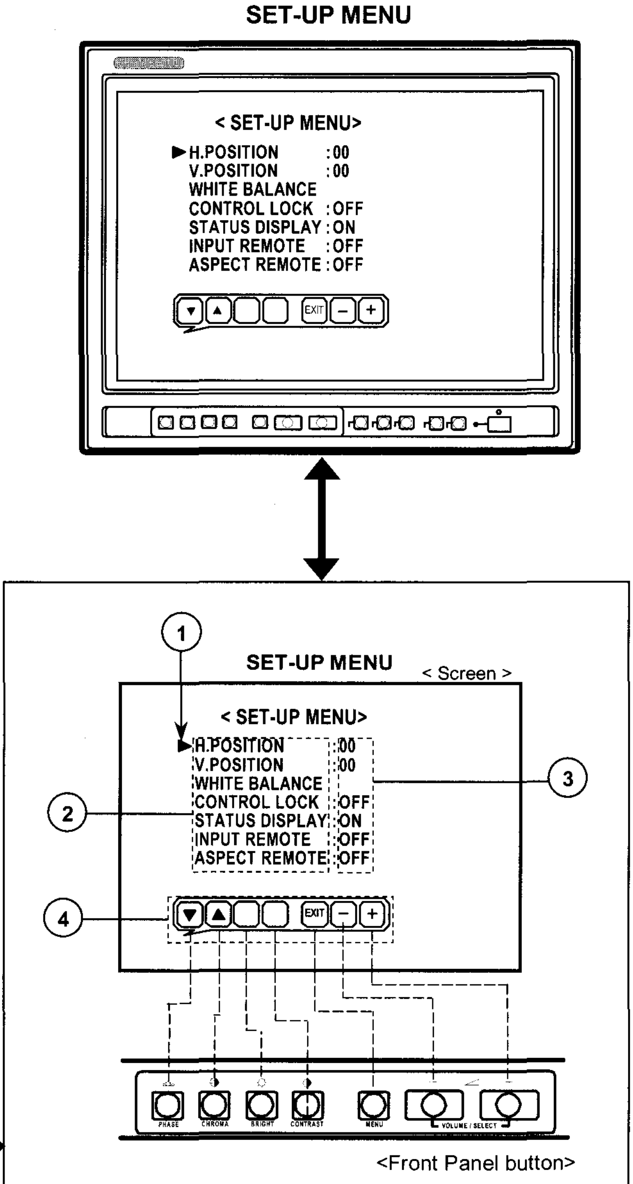
(3) Power on
Connect the power plug into the wall outlet and turn the power on.

(4) Check and set SET-UP MENU

1) Press the **MENU** key and the **PHASE** key simultaneously.
2) The SET-UP MENU screen of Fig. 1 will be displayed.
3) Check the setting value of the SET-UP MENU of page 7. If the value is different, select the setting item with the **PHASE / CHROMA** (▲ / ▼) key, and set the correct value with the VOL / SELECT (- / +) key.
4) Press the **MENU** key, and return to the normal screen.

Setting of SERVICE MENU
Confirm the initial settings of the SERVICE MENU and reset where necessary.
For setting, refer to the **SERVICE ADJUSTMENTS**.

Front Panel bottom	Function Displayed	Contents
PHASE	▼	Forward the menu item.
	R	Adjusts red signal level.
CHROMA	▲	Reverse the menu item.
	G	Adjusts green signal level.
BRIGHT	B	Adjusts blue signal level.
CONTRAST	DISP	Turns the ON-SCREEN display on or off. (This function is effective only in the DRIVE or CUT OFF adjustment mode.)
MENU	EXIT	Exit the <SET-UP MENU> screen. (release)
VOLUME / SELECT (−)	−	Lower the adjustment value. (to the minimum)
	◀	Reverse the setting value.
	DRV	Select DRV adjustment.
VOLUME / SELECT (+)	+	Raise the adjustment value. (to the maximum)
	▶	Forward the setting value.
	CUTO	Selects CUT OFF adjustment.



< SET-UP MENU>
▶H.POSITION :00
V.POSITION :00
WHITE BALANCE
CONTROL LOCK :OFF
STATUS DISPLAY :ON
INPUT REMOTE :OFF
ASPECT REMOTE :OFF

① Selection mark (▶): Indicates the menu item you select.
② Menu item : Menu items you can select.
③ Setting display : Indicates the current settings (value).
④ Function display : The functions of the front panel buttons (7 buttond on the left) correpond to the function dispayed.

Fig. 1

INITIAL SETTING OF THE SET-UP MENU

Setting item	Setting content / Range		Initial setting
H. POSITION	-05 ~ +05		00
V. POSITION	-05 ~ +05		00
WHITE BALANCE	CUTOFF (R, G, B)	-20 ~ +20	00
	DRIVE (R, B)	-20 ~ +20	00
CONTROL LOCK	→ ON → OFF		OFF
STATUS DISPLAY	→ ON → OFF		ON
INPUT REMOTE	→ OFF → A / B		OFF
ASPECT REMOTE	→ OFF → ON		OFF

INITIAL SETTING OF THE MENU SCREEN

Setting item	Setting content / Range	Initial setting
SHARPNESS	00 ~ +40	00
COLOR TEMP.	→ 9300 → 6500	6500
COLOR SYSTEM	→ AUTO → NTSC → AUTO → PAL	AUTO
ASPECT RATIO	→ 4-3 → 16-9	4-3
RGB / COMPONENT	→ RGB → COMPO → SDI	RGB
COMPO. LEVEL	-40 ~ +10	00
BLUE CHECK	→ ON → OFF	OFF

INITIAL SETTING OF FRONT PANEL CONTROLS

Control item	Initial setting
INPUT SELECT	A
UNDER SCAN	OFF
CONTRAST	00
BRIGHT	00
CHROMA	00
PHASE	00
VOLUME / SELECT	20

BLOCK SELECT ADJUSTMENT ITEM

SIGNAL BLOCK

SERVICE Number	INPUT SIGNAL	CONTENTS
S01	VIDEO COMPONENT	BRIGHT
S02		CONTRAST
S03	VIDEO	CHROMA(PAL)
S04		CHROMA(NTSC)
S05		PHASE(NTSC)
S06	COMPONENT / SDI	CHROMA
S07	RGB	BRIGHT
S08		CONTRAST
S09	UNDER SCAN	BRIGHT
S10		CONTRAST
S11	VIDEO	PHASE(PAL)
S12	COMPONENT / SDI	PHASE
S13	VIDEO, COMPO.	CONT TRACKING

DEFLECTION BLOCK

SERVICE Number	SCAN SIZE ASPECT RATIO	VERTICAL FREQUENCY	CONTENTS
D01	NORMAL	50Hz	HORIZONTAL POSITION
D02			HORIZONTAL SIZE
D03			VERTICAL POSITION
D04			VERTICAL SIZE
D05			VERTICAL LINEARITY
D06			VERTICAL S-CORRECTION
D07			E-W PARABOLA
D08			E-W CORNER

✱ In addition to the ones listed above, the following DEF. BLOCK are also available.
DA1 ~ DA8 (Normal / 60Hz), DB1 ~ DB8 (16:9 / 50Hz)
DC1 ~ DC8 (16:9 / 60Hz), DD1 ~ DD8 (UNDER SCAN / 50Hz)
DE1 ~ DE8 (UNDER SCAN / 60Hz)

WHITE BALANCE

SERVICE Number	INPUT SIGNAL	CONTENTS
W01	VIDEO COMPONENT	CUTOFF R
W02		CUTOFF G
W03		CUTOFF B
W04		DRIVE R (6500)
W05		DRIVE B (6500)
W06		DRIVE R (9300)
W07		DRIVE B (9300)
W08	RGB	CUTOFF R
W09		CUTOFF G
W10		CUTOFF B
W11		CUTOFF R
W12		CUTOFF G
W13		CUTOFF B

CONTROL BLOCK (This is a fixed value. Don't adjust it.)

SERVICE Number	ITEM	
C01	SYSTEM 8 : INITIAL SETTING (9300) 9 : INITIAL SETTING (6500)	
C02		UPPER
C03		LOWER
C04		UPPER
C05		LOWER
C06		UPPER
C07		LOWER
C08		UPPER
C09		LOWER
C10	OSD HORIZONTAL POSITION	
C11	OSD VERTICAL FREQUENCY 50Hz	
C12	OSD VERTICAL FREQUENCY 60Hz	
C13	HORIZONTAL CENTER (RGB)	
C14	HORIZONTAL CENTER (COMPONENT)	
C15	BRIGHT SERVICE	
C16	SHARPNESS CENTER	
C17	HVT H	
C18	HVT V	
C19	HVT H (UNDER SCAN)	
C20	HVT V (UNDER SCAN)	
C21	V-SS.CR	
C22	TRAPEZOID	
C23	HOUR METER	

SERVICE ADJUSTMENTS

BEFORE STARTING SERVICE ADJUSTMENT

1. Confirm the proper AC power voltage is being supplied.
2. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
3. The setting is made on basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
4. Use care not to disturb controls and switches not mentioned in the adjustment items.

ADJUSTMENT SETTINGS

For the functions except for those which must set the values every time during the adjustment procedure, begin to make adjustments after returning the setting values to the initial values while referring to the table in page 7. If each value of the functions has not been initialized, the adjustments cannot be made properly.

ADJUSTMENT ITEMS

- **MEASURING INSTRUMENTS FIXTURES AND STANDARD SIGNAL**
- **ADJUSTMENT LOCATIONS**
- **REPLACEMENT OF CHIP COMPONENT**
- **BASIC OPERATION OF SERVICE MENU**
- **SERVICE MENU COMPOSITION CHART**
- **INITIAL SETTING OF THE SERVICE MENU ADJUSTMENT ITEMS**
- **ADJUSTMENT METHOD**
- **DEFLECTION CIRCUIT ADJUSTMENT**
- **HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT**
- **SELF CHEACK FUNCTION**

■ MEASURING INSTRUMENTS. FIXTURES AND STANDARD SIGNAL

- DC voltmeter (digital voltmeter)
- Oscilloscope
- Signal generator (PAL/NTSC systems)
- Color analyzer
- High voltage meter

The wave form of signals refer following figure.

FOCUS AND SCREEN ADJUSTMENT HOLES

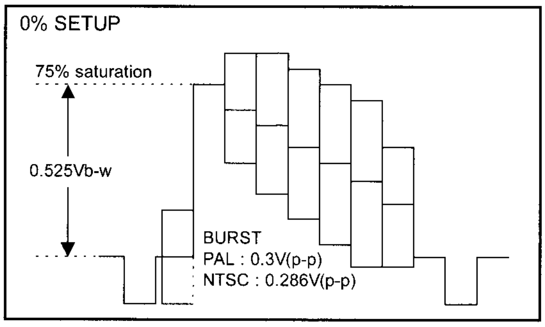
- The FOCUS and SCREEN adjustment holes are on the rear panel.

[CAUTION]

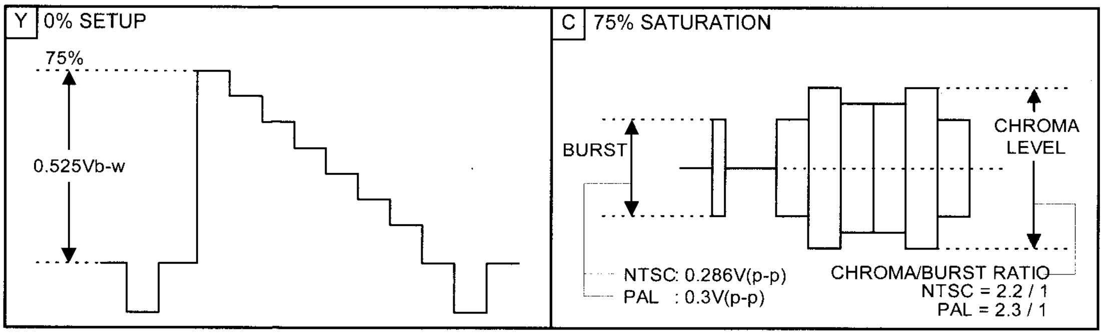
Be sure to use a non-metalic driver for adjusting there VRs.
A metalic driver can cause damage by shorting.

STANDARD SIGNAL

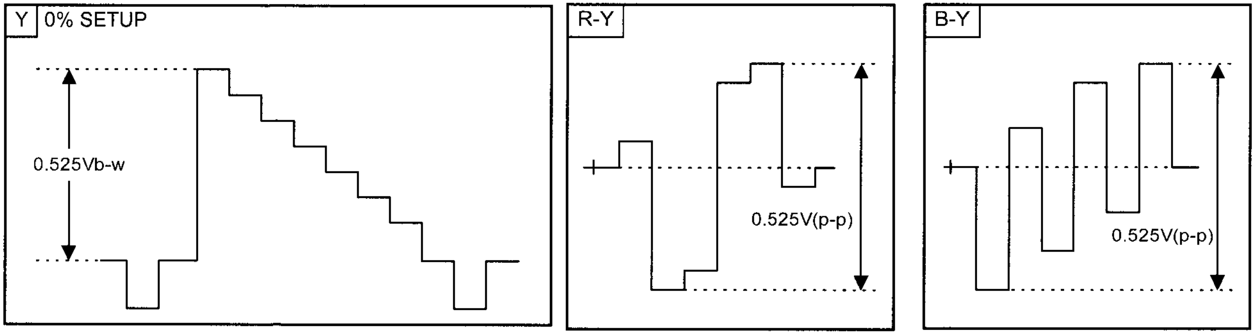
VIDEO SIGNAL (PAL / NTSC COLOR BAR)



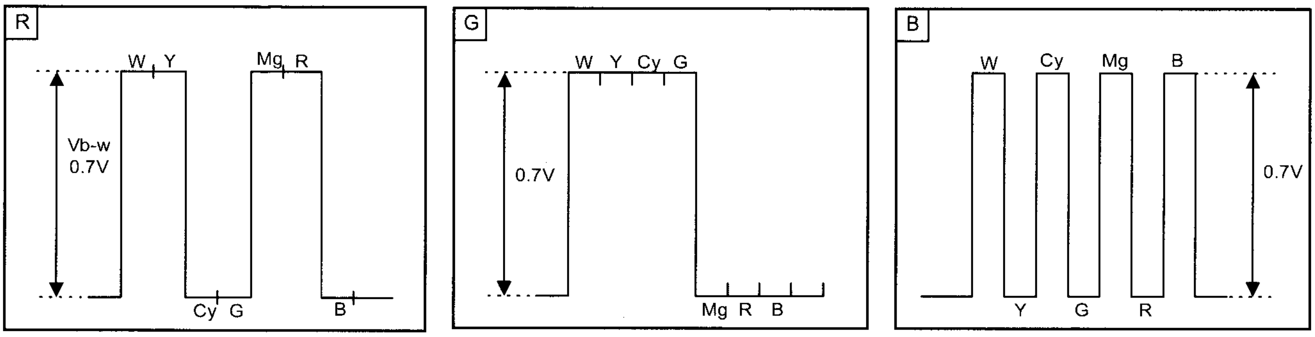
Y / C SEPARATE SIGNAL (COLOR BAR)



COMPONENT SIGNAL (100 / 0 / 100 / 0 Interface, 75 / 0 / 75 / 0 color bar)

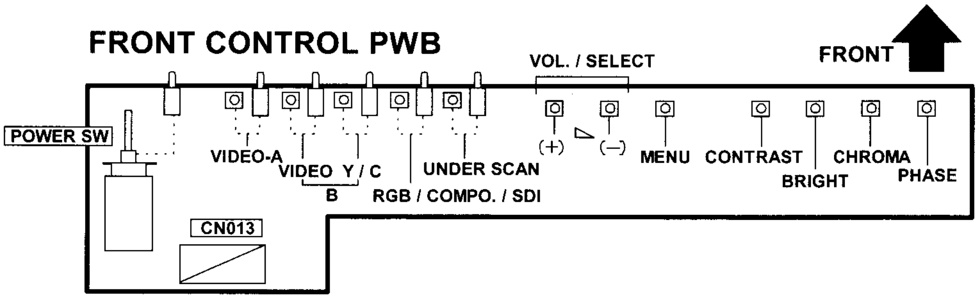


RGB SIGNAL

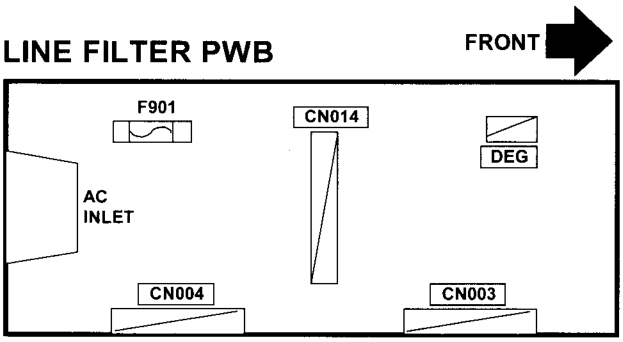


■ ADJUSTMENT LOCATIONS

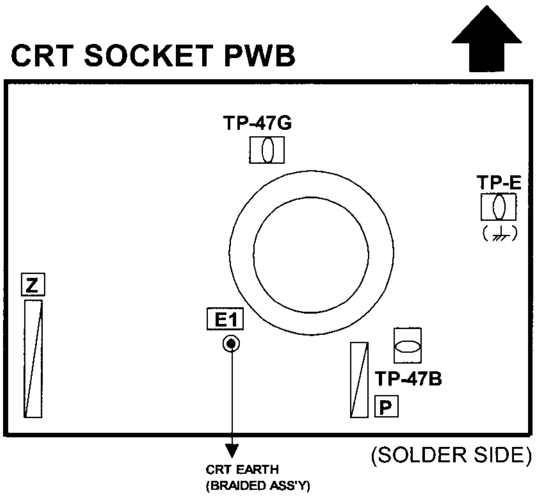
FRONT CONTROL PWB



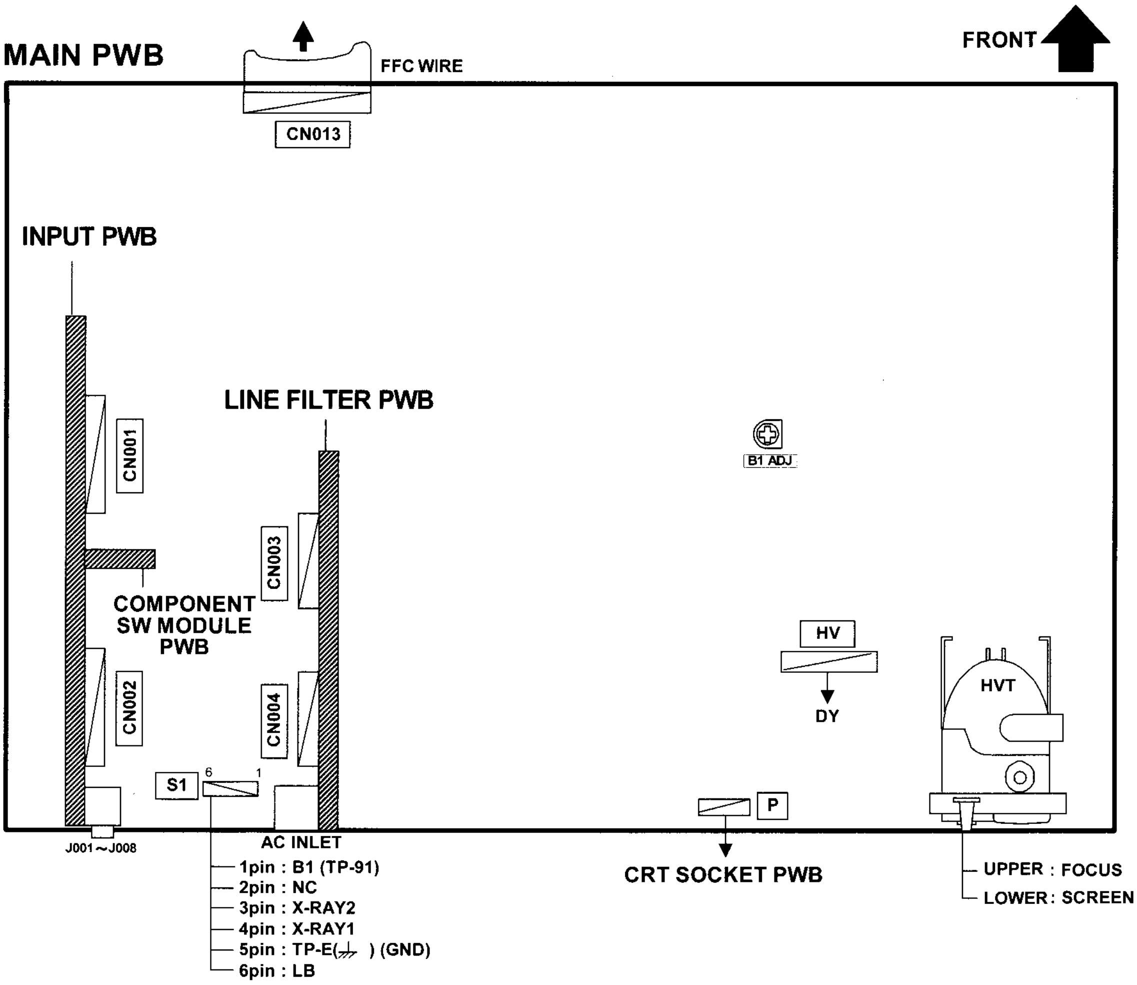
LINE FILTER PWB

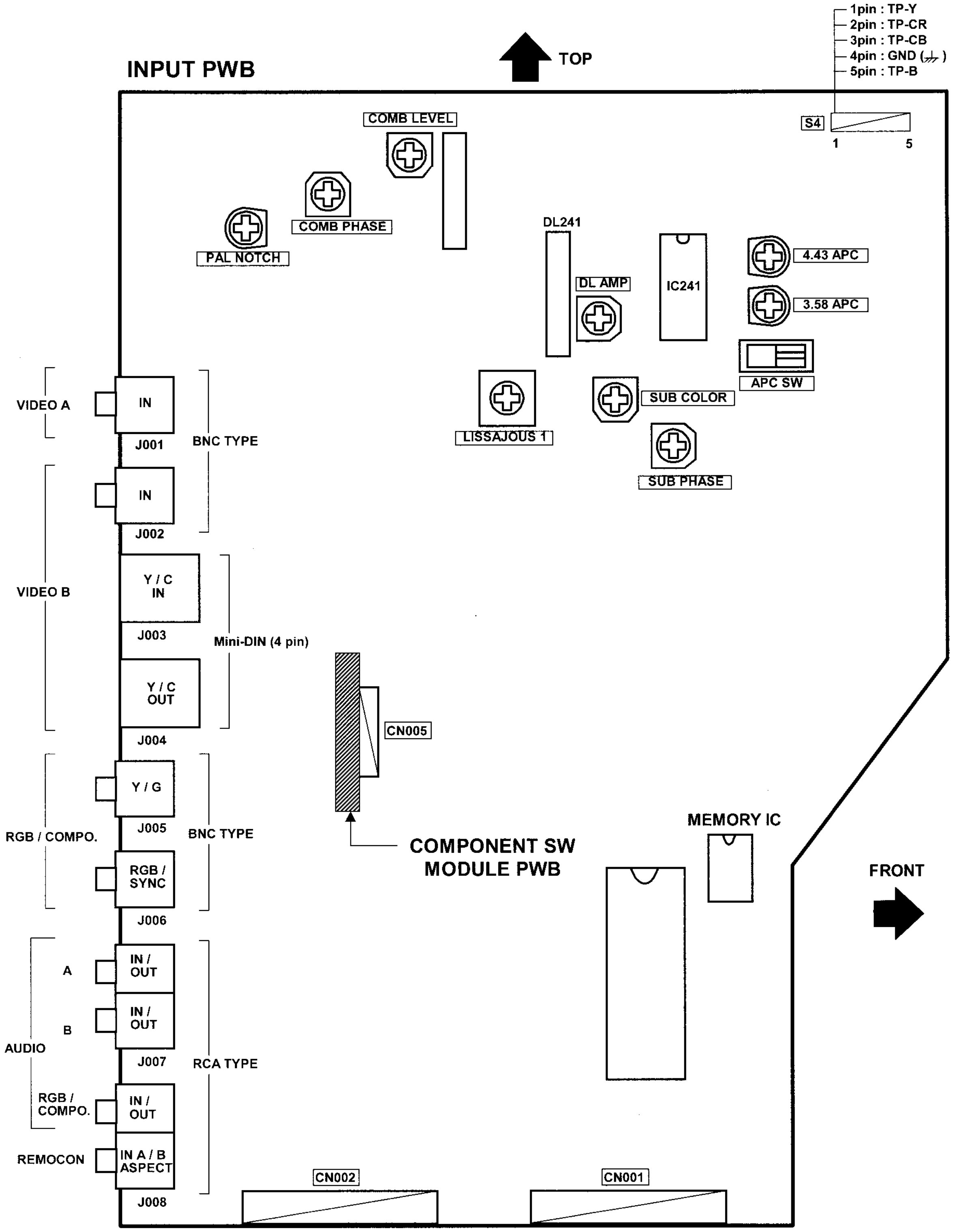


CRT SOCKET PWB



MAIN PWB




1pin : TP-Y
2pin : TP-CR
3pin : TP-CB
4pin : GND (⏚)
5pin : TP-B
INPUT PWB
TOP
S4
1
5
COMB LEVEL
COMB PHASE
PAL NOTCH
DL241
DL AMP
IC241
4.43 APC
3.58 APC
APC SW
LISSAJOUS 1
SUB COLOR
SUB PHASE
VIDEO A
IN
J001
BNC TYPE
IN
J002
VIDEO B
Y / C IN
J003
Mini-DIN (4 pin)
Y / C OUT
J004
CN005
Y / G
J005
RGB / COMPO.
BNC TYPE
RGB / SYNC
J006
COMPONENT SW MODULE PWB
MEMORY IC
FRONT
A
IN / OUT
B
IN / OUT
AUDIO
J007
RCA TYPE
RGB / COMPO.
IN / OUT
REMOCON
IN A / B ASPECT
J008
CN002
CN001

■ REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

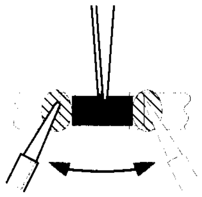
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

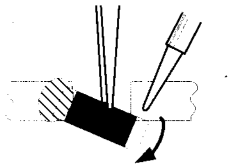
1. How to remove Chip parts

◆ **Resistors, capacitors, etc**

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

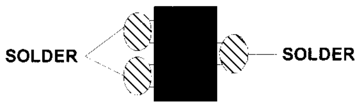


(2) Shift with tweezers and remove the chip part.

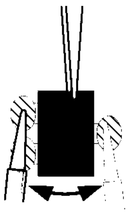


◆ **Transistors, diodes, variable resistors, etc**

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

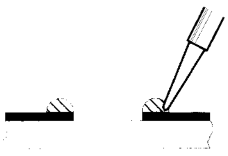


Note : After removing the part, remove remaining solder from the pattern.

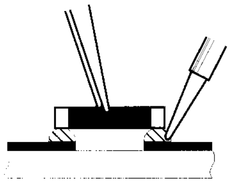
2. How to install Chip parts

◆ **Resistors, capacitors, etc**

(1) Apply solder to the pattern as indicated in the figure.

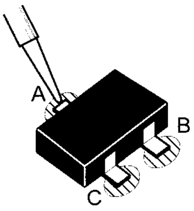


(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

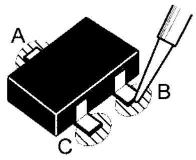


◆ **Transistors, diodes, variable resistors, etc**

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



BASIC OPERATION OF SERVICE MENU

1. SERVICE MENU ITEMS

With the SERVICE MENU, various settings can be made, and they are broadly classified in the following items of adjustments.

SIGNAL BLOCK	This mode adjusts the data of the various signal voltage controls.
WHITE BALANCE BLOCK	This mode adjusts the data of the WHITE BALANCE adjustment.
DEFLECTION BLOCK	This mode adjusts the data of the DEFLECTION circuit.
CONTROL BLOCK	This mode adjusts the whole of the systems **(This is a fixed value, Don't adjust it.)**

2. BASIC OPERATION OF THE SERVICE MENU

(1) HOW TO ENTER THE SERVICE MENU

① Press **MENU** key and **CONTRAST** key simultaneously. (Fig. 1)
② The letter "S" appears at the upper left of the screen.(Fig. 2)
③ Press **MENU** key and **PHASE** key simultaneously.
④ The screen display "PLEASE DON'T TOUCH".(Fig. 3)
⑤ Press **+ key** or **- key** to display the SERVICE MENU as shown in Fig. 4.

If step ④ state continues for more than 5 seconds without a further operation, the display extinguishes and the mode is released.

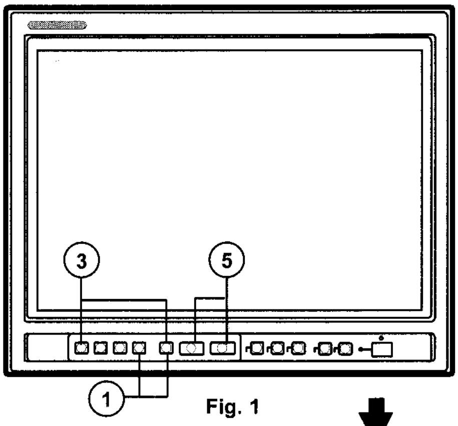


Fig. 1

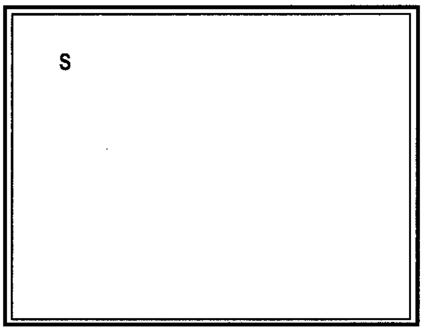


Fig. 2

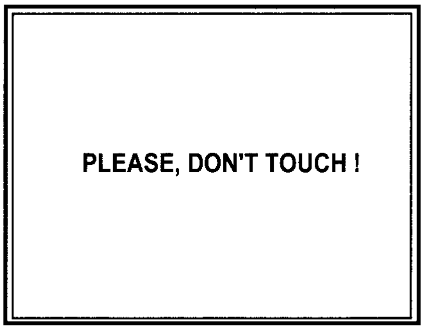


Fig. 3

SERVICE MENU

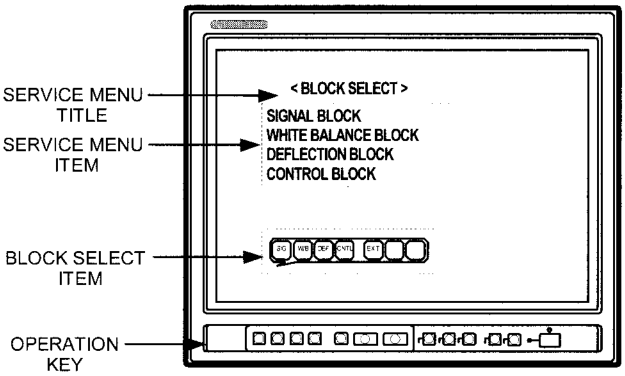
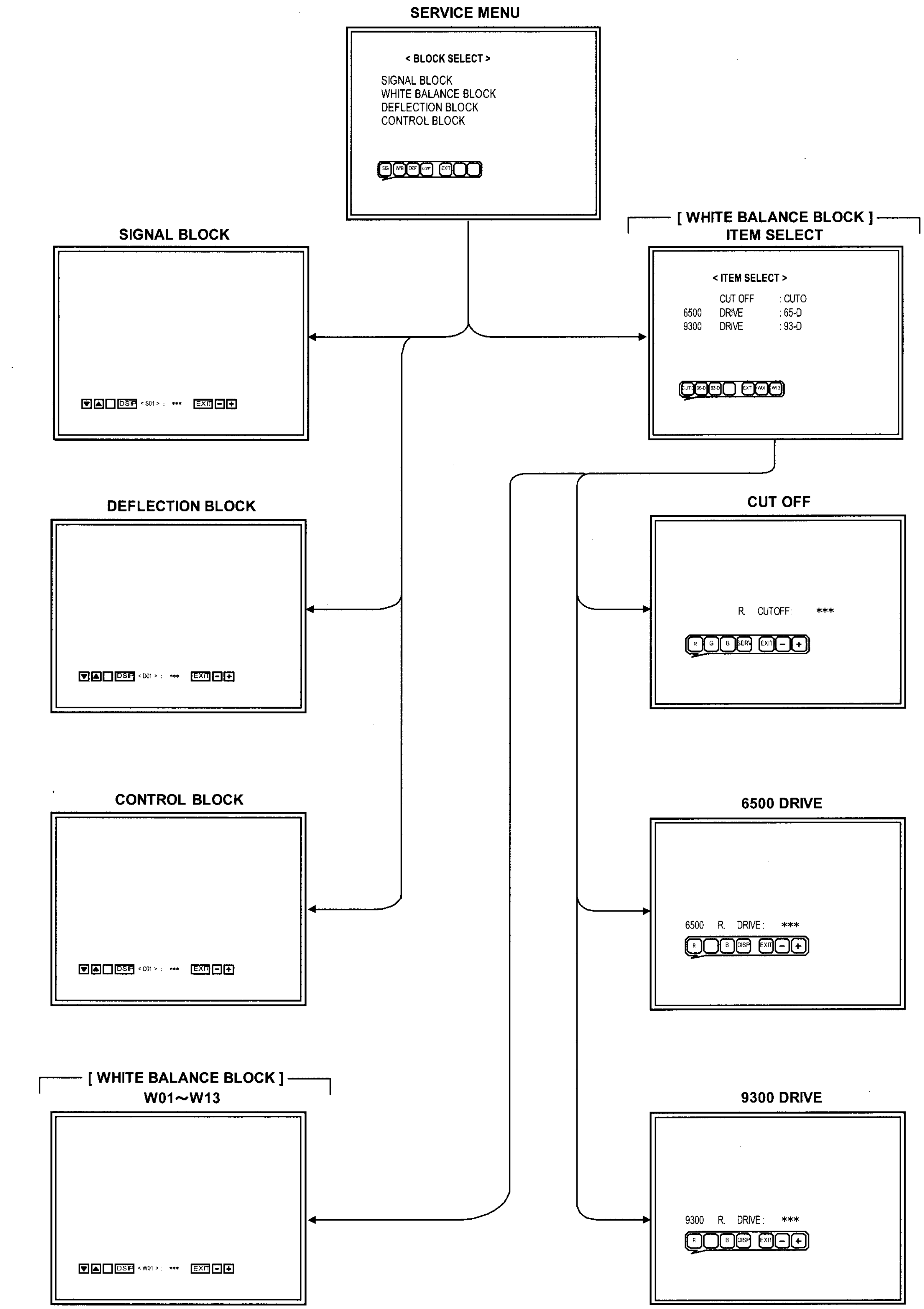


Fig. 4

■SERVICE MENU COMPOSITION CHART



(3) SELECT OF SUB MENU SCREEN (Fig. 5)

- While the SERVICE MENU is displayed.

  In accordance with the key control display at the lower side of the screen, operate the various items.

  SIGNAL BLOCK(SIG)··············· Press the **PHASE** key
  WHITE BALANCE BLOCK(W/B)··· press the **CHROMA** key
  DEFLECTION BLOCK(DEF)········ Press the **BRIGHT** key
  CONTROL BLOCK(CNTL)·········· Press the **CONTRAST** key

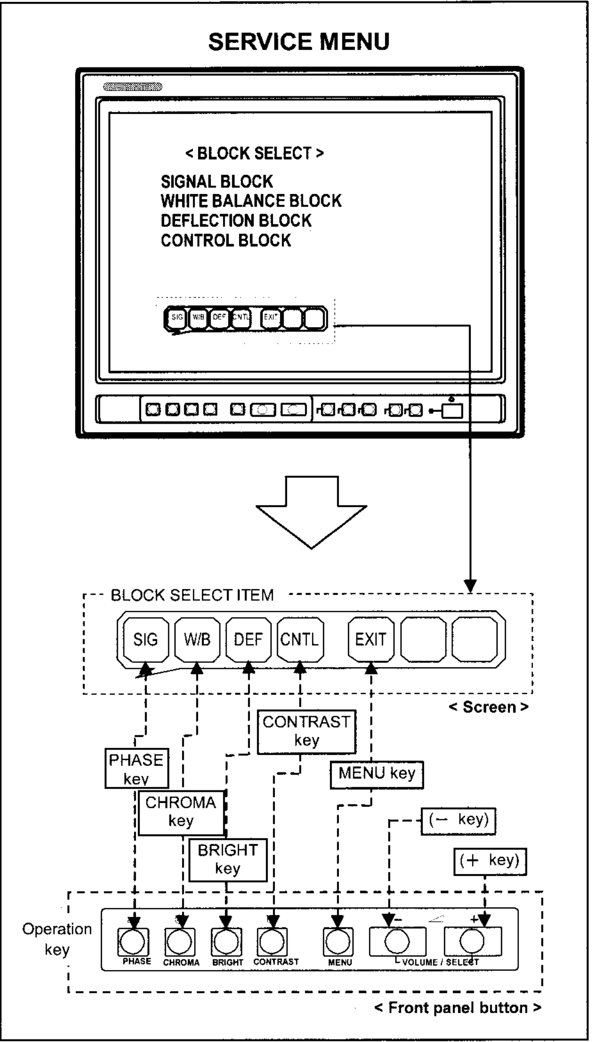


Fig. 5

(4) SETTING VALUE CHANGES

- While the adjustment mode menu is displayed. (Fig. 6)

① Press the + key to change the setting value in the + direction.
② Press the – key to change the setting value in the - direction.
③ Press the **PHASE** key or **CHROMA** key to select the service number.

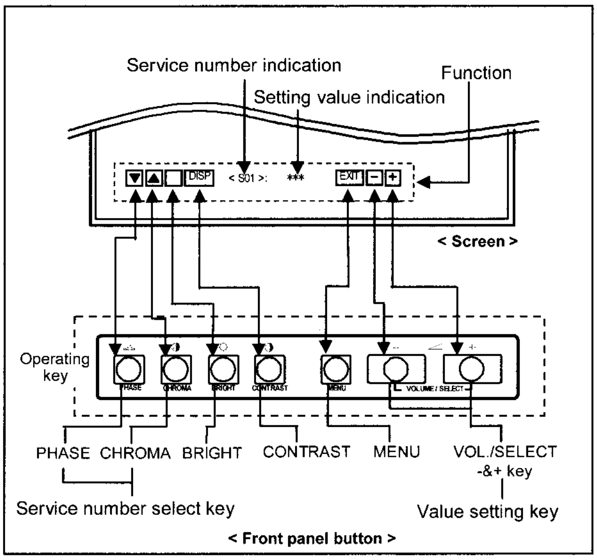


Fig. 6

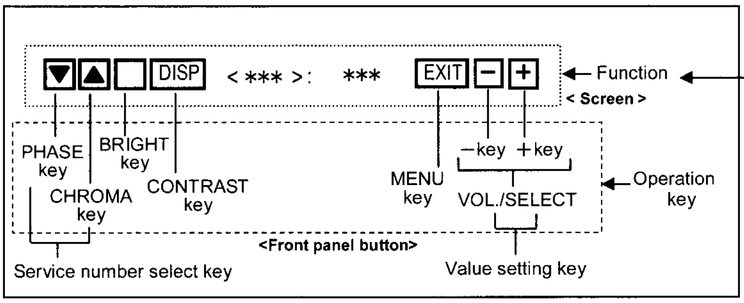
(5) SERVICE MENU EXIT

① When settings are completed, press **MENU** key.
② The SERVICE MENU returns.
③ Again press **MENU** key.
The screen display extinguishes the SERVICE MENU is exited.

3. HOW TO OPERATE SERVICE MENU ITEMS

■ SIGNAL BLOCK

① Press the **PHASE** key from the <BLOCK SELECT> screen.
② Then displays the SIGNAL BLOCK adjustment screen (Fig. 7).
③ The select items is shown by the SERVICE Number at the lower of the screen.
④ Key control operation are displays as same as the screen lower. The key operations of this mode are following as shown below. **CONTRAST** key is the switch of the screen display. If necessary, you can shut off the display. Carefully, values of SERVICE MENU adjustment items are changed while shut off the screen display.
⑤ Press the MENU key, then exit from the SIGNAL BLOCK screen to return to the <BLOCK SELECT> screen.



SIGNAL BLOCK

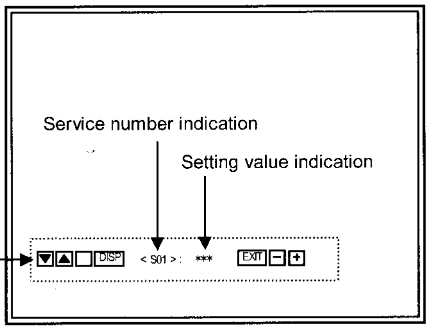


Fig. 7

■ WHITE BALANCE BLOCK

① Press the **CHROMA** key from the <BLOCK SELECT> screen (SERVICE MAIN MENU) (Fig. 8).
② Then screen displays the WHITE BALANCE BLOCK adjustment screen. (Fig. 9)
③ The select item is shown by the SERVICE Number at the lower of the screen.
④ Press the **MENU** key few times, then exit from the WHITE BALANCE BLOCK screen to return to the <BLOCK SELECT> screen.

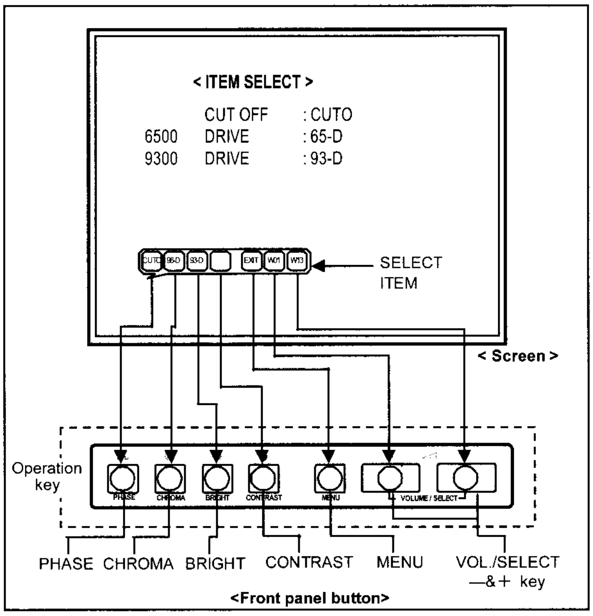


Fig. 9

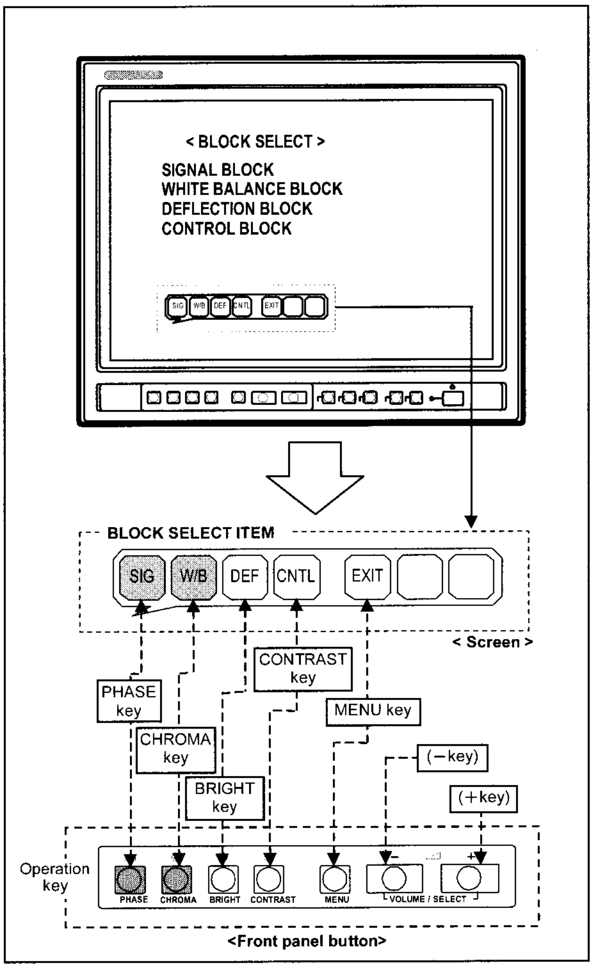
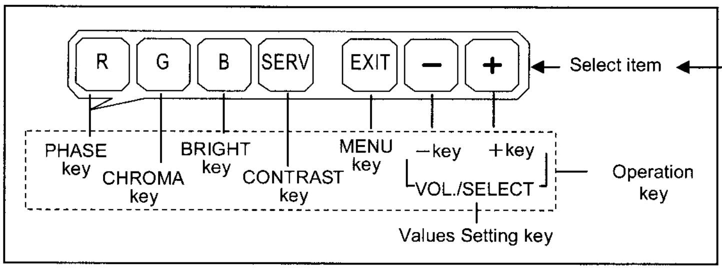


Fig. 8

[WHITE BALANCE Adjustment : METHOD 1]

Accordance with the screen, select the WHITE BALANCE mode that following below.

- **CUTOFF adjustment mode (LOW LIGHT)**
  Press the **PHASE** key, then enter the CUTOFF adjustment mode as shown in Fig. 10 (LOW LIGHT adjustment mode).
  In this case, key control is changed as shown below.



CUTOFF

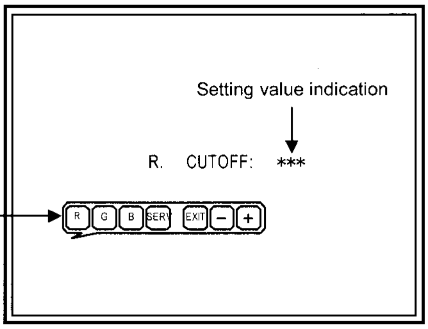


Fig. 10

Press key of the SERV displaying. Shown single horizontal line on or off. (Fig. 11)

SERVICE

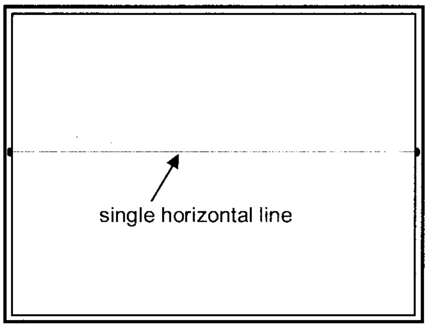
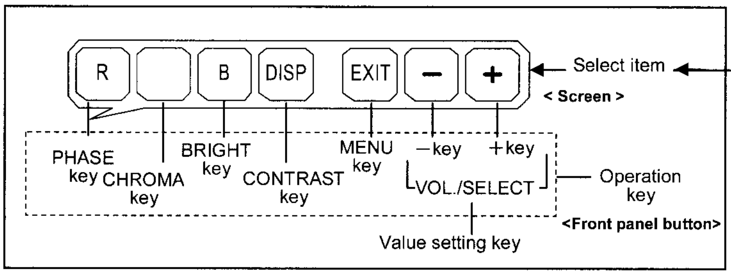


Fig. 11

- **6500 / 9300 drive adjustment mode (HIGH LIGHT)**
  Press the **CHROMA** or **BRIGHT** key, then enter the 6500 drive (or 9300 drive) adjustment mode as shown in Fig. 12 (HIGH LIGHT adjustment mode). In this case, key control is changed as shown below.



6500 DRIVE

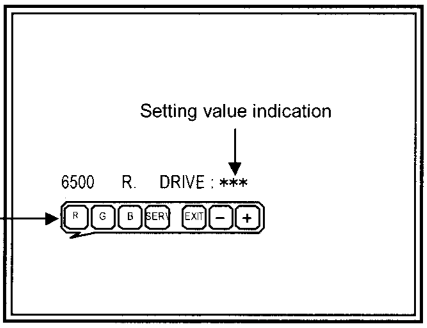
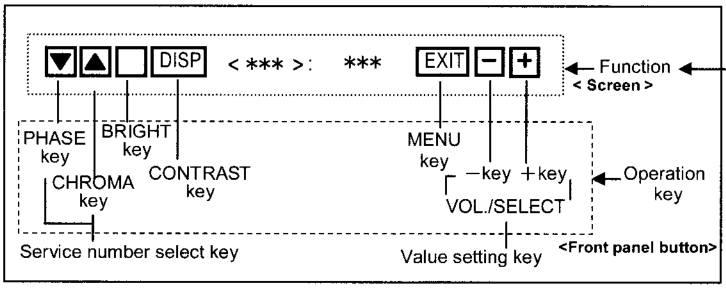


Fig. 12

[WHITE BALANCE Adjustment : METHOD 2]

Accordance with the screen, select the WHITE BALANCE mode that following below.

Press the + key or – key, then enter the WHITE BALANCE full adjustment mode as shown in Fig.13 (this mode both LOW LIGHT and HIGH LIGHT are able to adjust). In the case, key control is changed as shown below. The operation of the mode is as same as SIGNAL BLOCK adjustment operation.



WHITE BALANCE

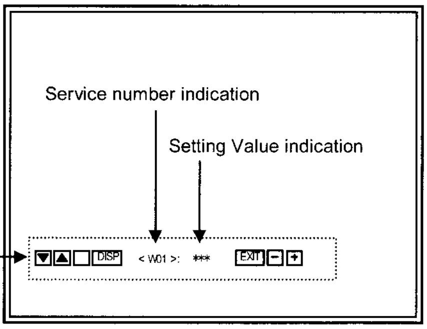
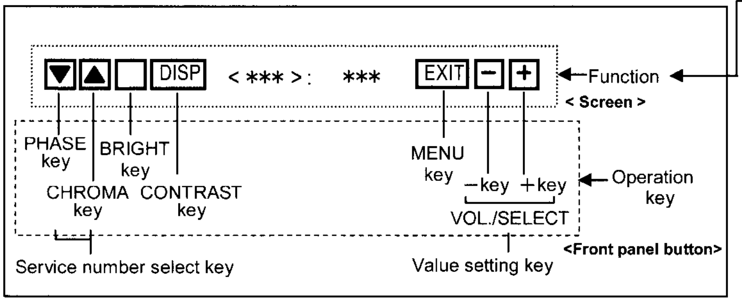


Fig. 13

■ DEFLECTION BLOCK

① Press the **BRIGHT** key from the <BLOCK SELECT> screen.
② Then screen displays the DEFLECTION BLOCK adjustment screen (Fig. 14).
③ The select item is shown by the SERVICE Number at the lower of the screen (Table 1).
④ The adjustment screen changes by case of the signal that use for adjustment (Vertical frequency and screen aspect value).



Key control operation are displays as same as the screen lower. The key operations of this mode are following as shown below.
CONTRAST key is the switch of the screen display. If necessary, you can shut off the display. Carefully, values of SERVICE MENU adjustment items are changed while shut off the screen daily.

DEF. BLOCK

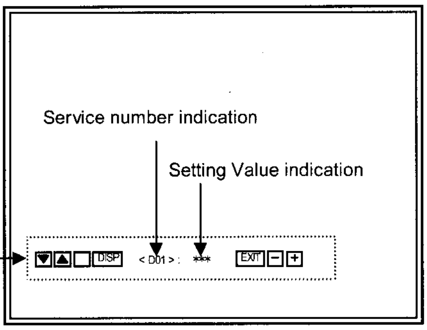


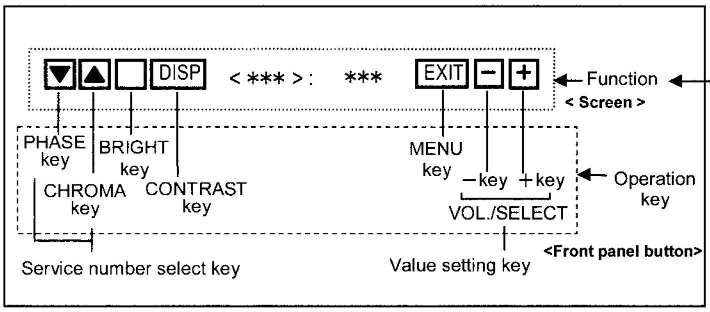
Fig. 14

SIGNAL	SCREEN DISPLAY
50Hz 4:3	<D0 ∗ >
60Hz 4:3	<DA ∗ >
50Hz 16:9	<DB ∗ >
60Hz 16:9	<DC ∗ >
50Hz UNDER SCAN	<DD ∗ >
60Hz UNDER SCAN	<DE ∗ >

Table 1

■ CONTROL BLOCK (This is a fixed value, Don't adjust it).

① Press the **CONTRAST** key from the <BLOCK SELECT> screen.
② Then screen displays the CONTROL BLOCK adjustment screen (Fig. 15).
③ The select item is shown by the SERVICE Number at the lower of the screen.
④ Key control operation are displays as same as the screen lower. The key operations of this mode are following as shown below.



CONTROL BLOCK

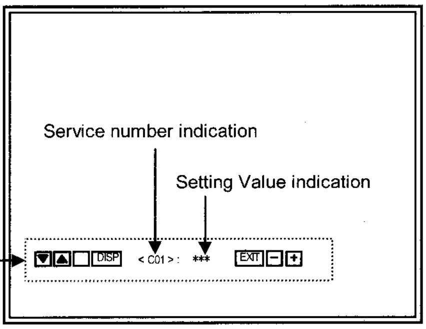


Fig. 15

■ INITIAL SETTINGS OF THE SERVICE MENU ADJUSTMENT ITEMS

1. SIGNAL BLOCK

SERVICE Number	INPUT SIGNAL	CONTENTS	VARIABLE RANGE	TYPE	INITIAL VALUE
S01	VIDEO COMPONENT SDI	BRIGHT	000 ~ 255	ABSOLUTE	130
S02		CONTRAST	000 ~ 127	ABSOLUTE	075
S03	VIDEO	CHROMA (PAL)	000 ~ 127	ABSOLUTE	055
S04		CHROMA (NTSC)	-128 ~ 000 ~ +127	ABSOLUTE	+002
S05		PHASE (NTSC)	000 ~ 127	ABSOLUTE	064
S06	COMPONENT SDI	CHROMA	000 ~ 127	ABSOLUTE	080
S07	RGB	BRIGHT	000 ~ 127	ABSOLUTE	064
S08		CONTRAST	-128 ~ 000 ~ +127	OFFSET	-008
S09	UNDER SCAN	BRIGHT	-128 ~ 000 ~ +127	OFFSET	000
S10		CONTRAST	-128 ~ 000 ~ +127	OFFSET	000
S11	VIDEO	PHASE (PAL)	000 ~ 127	FIXED	062
S12	COMPONENT SDI	PHASE	000 ~ 127	FIXED	062
S13	VIDEO, COMPO.	CONT TRACKING	000 ~ 031	FIXED	016

2. WHITE BALANCE BLOCK

SERVICE Number	INPUT SIGNAL	CONTENTS	VARIABLE RANGE	TYPE	INITIAL VALUE
W01	VIDEO COMPONENT SDI	CUTOFF R	000 ~ 255	ABSOLUTE	050
W02		CUTOFF G	000 ~ 255	ABSOLUTE	050
W03		CUTOFF B	000 ~ 255	ABSOLUTE	050
W04		DRIVE R (6500)	000 ~ 127	ABSOLUTE	084
W05		DRIVE B (6500)	000 ~ 127	ABSOLUTE	030
W06		DRIVE R (9300)	000 ~ 127	ABSOLUTE	073
W07		DRIVE B (9300)	000 ~ 127	ABSOLUTE	044
W08	RGB	CUTOFF R	-128 ~ 000 ~ +127	OFFSET	000
W09		CUTOFF G	-128 ~ 000 ~ +127	OFFSET	000
W10		CUTOFF B	-128 ~ 000 ~ +127	OFFSET	000
W11	UNDER SCAN	CUTOFF R	-128 ~ 000 ~ +127	OFFSET	000
W12		CUTOFF G	-128 ~ 000 ~ +127	OFFSET	000
W13		CUTOFF B	-128 ~ 000 ~ +127	OFFSET	000

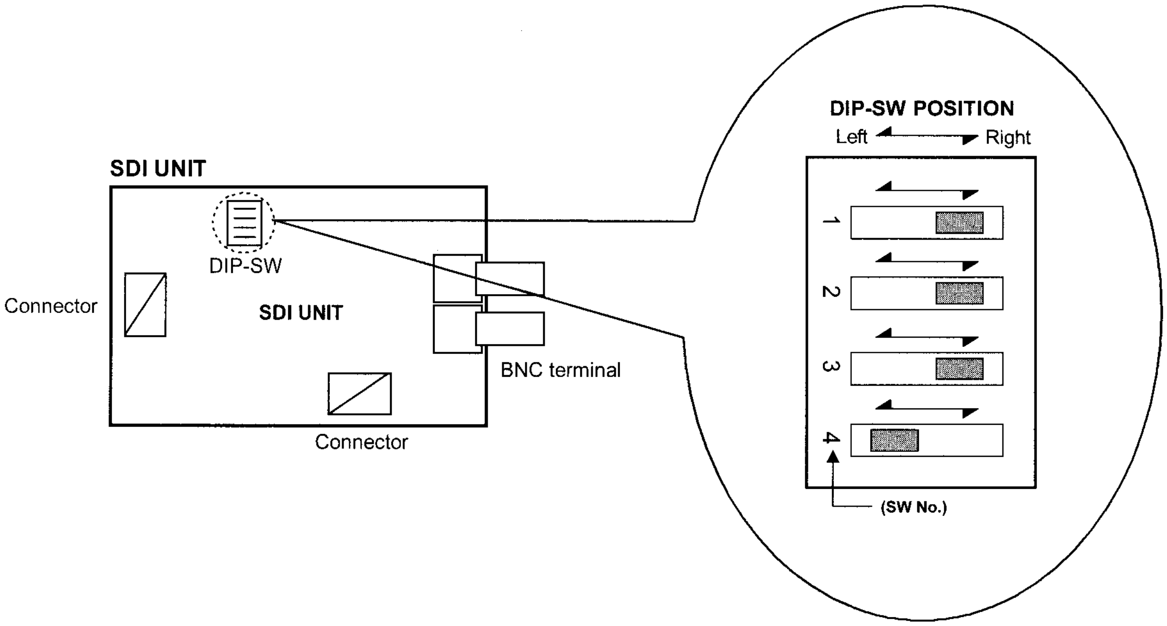
3. DEFLECTION BLOCK

SERVICE Number	SCAN SIZE ASPECT RATIO	VERTICAL FREQUENCY	CONTENTS	VARIABLE RANGE	TYPE	INITIAL VALUE
D01	NORMAL	50Hz	HORIZONTAL POSITION	000 ~ 031	ABSOLUTE	010
D02			HORIZONTAL SIZE	000 ~ 063	ABSOLUTE	033
D03			VERTICAL POSITION	000 ~ 127	ABSOLUTE	061
D04			VERTICAL SIZE	000 ~ 127	ABSOLUTE	035
D05			VERTICAL LINEARITY	000 ~ 031	ABSOLUTE	018
D06			VERTICAL S-CORRECTION	000 ~ 063	ABSOLUTE	040
D07			E-W PARABOLA	000 ~ 063	ABSOLUTE	000
D08			E-W CORNER	000 ~ 031	ABSOLUTE	000
DA1	NORMAL	60Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	OFFSET	+003
DA2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	OFFSET	-004
DA3			VERTICAL POSITION	-128 ~ 000 ~ +127	OFFSET	+001
DA4			VERTICAL SIZE	-128 ~ 000 ~ +127	OFFSET	-002
DA5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	OFFSET	-001
DA6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	OFFSET	000
DA7			E-W PARABOLA	-064 ~ 000 ~ +063	OFFSET	000
DA8			E-W CORNER	-032 ~ 000 ~ +031	OFFSET	000
DB1	16:9	50Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	OFFSET	000
DB2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	OFFSET	000
DB3			VERTICAL POSITION	-128 ~ 000 ~ +127	OFFSET	000
DB4			VERTICAL SIZE	-128 ~ 000 ~ +127	OFFSET	-024
DB5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	OFFSET	000
DB6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	OFFSET	000
DB7			E-W PARABOLA	-064 ~ 000 ~ +063	OFFSET	000
DB8			E-W CORNER	-032 ~ 000 ~ +031	OFFSET	000
DC1	16:9	60Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	OFFSET	000
DC2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	OFFSET	000
DC3			VERTICAL POSITION	-128 ~ 000 ~ +127	OFFSET	000
DC4			VERTICAL SIZE	-128 ~ 000 ~ +127	OFFSET	-023
DC5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	OFFSET	000
DC6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	OFFSET	000
DC7			E-W PARABOLA	-064 ~ 000 ~ +063	OFFSET	000
DC8			E-W CORNER	-032 ~ 000 ~ +031	OFFSET	000
DD1	UNDER SCAN	50Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	OFFSET	000
DD2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	OFFSET	000
DD3			VERTICAL POSITION	-128 ~ 000 ~ +127	OFFSET	000
DD4			VERTICAL SIZE	-128 ~ 000 ~ +127	OFFSET	000
DD5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	OFFSET	000
DD6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	OFFSET	000
DD7			E-W PARABOLA	-064 ~ 000 ~ +063	OFFSET	000
DD8			E-W CORNER	-032 ~ 000 ~ +031	OFFSET	000
DE1	UNDER SCAN	60Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	OFFSET	000
DE2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	OFFSET	+001
DE3			VERTICAL POSITION	-128 ~ 000 ~ +127	OFFSET	000
DE4			VERTICAL SIZE	-128 ~ 000 ~ +127	OFFSET	000
DE5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	OFFSET	000
DE6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	OFFSET	000
DE7			E-W PARABOLA	-064 ~ 000 ~ +063	OFFSET	000
DE8			E-W CORNER	-032 ~ 000 ~ +031	OFFSET	000

4. CONTROL BLOCK (This is a fixed value. Don't adjust it.)

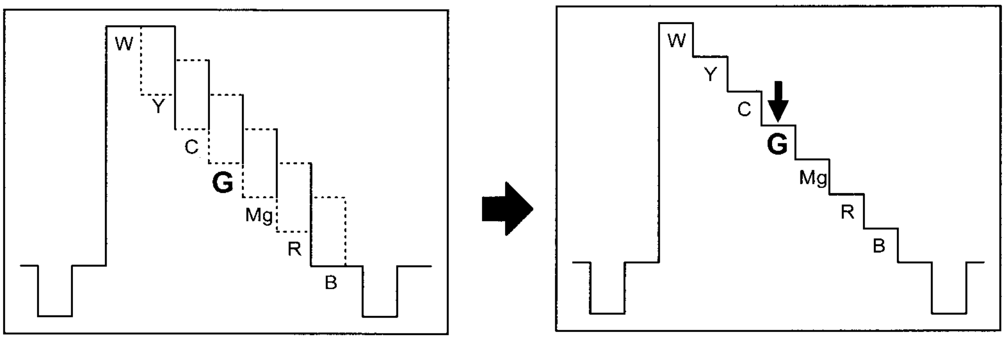
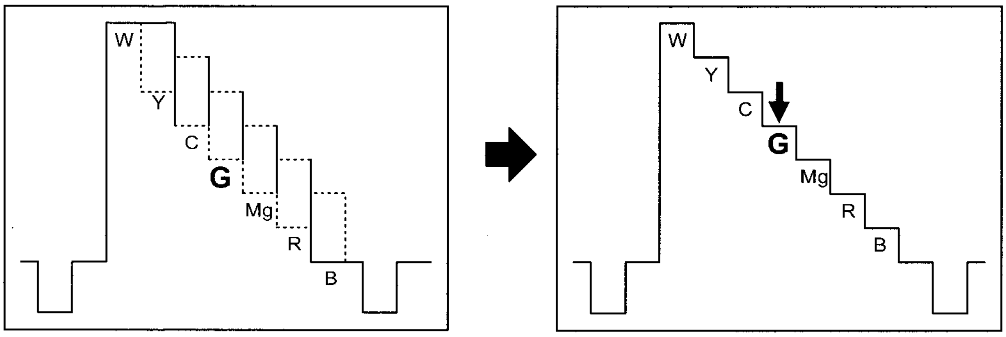
SERVICE Number	ITEM		VARIABLE RANGE	TYPE	INITIAL VALUE
C01	SYSTEM 8 : INITIAL SETTING (9300) 9 : INITIAL SETTING (6500)		000 ~ 015	FIXED	009
C02	BRIGHT POINT	UPPER	000 ~ 255	FIXED	016
C03		LOWER	000 ~ 255	FIXED	026
C04	CONTRAST POINT	UPPER	000 ~ 127	FIXED	016
C05		LOWER	000 ~ 127	FIXED	026
C06	CHROMA POINT	UPPER	000 ~ 127	FIXED	040
C07		LOWER	000 ~ 127	FIXED	040
C08	PHASE POINT	UPPER	000 ~ 127	FIXED	040
C09		LOWER	000 ~ 127	FIXED	040
C10	OSD HORIZONTAL POSITION		000 ~ 010	FIXED	000
C11	OSD VERTICAL FREQUENCY 50Hz		000 ~ 010	FIXED	004
C12	OSD VERTICAL FREQUENCY 60Hz		000 ~ 010	FIXED	002
C13	HORIZONTAL CENTER (RGB)		-128 ~ 000 ~ +127	OFFSET	+003
C14	HORIZONTAL CENTER (COMPONENT)		-128 ~ 000 ~ +127	OFFSET	+002
C15	BRIGHT SERVICE		000 ~ 127	FIXED	000
C16	SHARPNESS CENTER		000 ~ 127	FIXED	020
C17	HVT H		000 ~ 007	FIXED	001
C18	HVT V		000 ~ 007	FIXED	002
C19	HVT H (UNDER SCAN)		000 ~ 007	FIXED	000
C20	HVT V (UNDER SCAN)		000 ~ 007	FIXED	001
C21	V-SS.CR		000 ~ 015	FIXED	000
C22	TRAPEZOID		000 ~ 127	FIXED	000
C23	HOUR METER		001 ~ 650	MEASURED	001

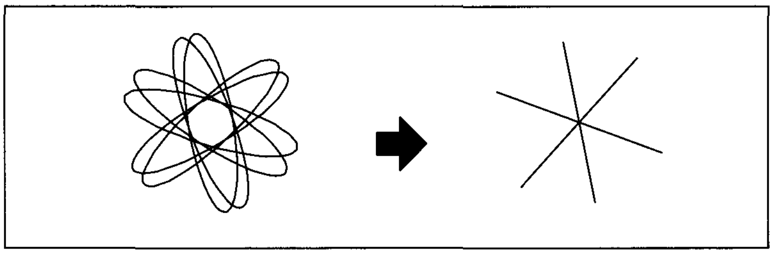
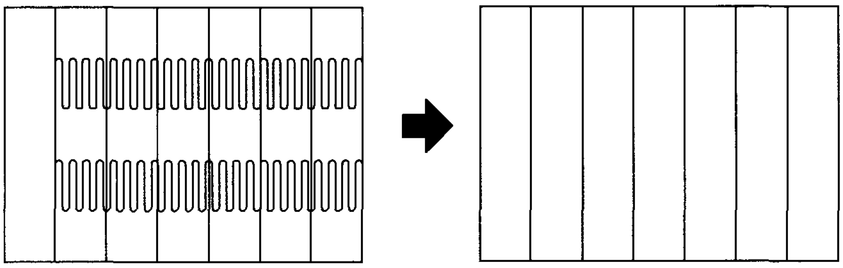
5. CHECKING DIP-SW ON SDI UNIT (The DIP-SW position is fixed. Please don't touch it.)



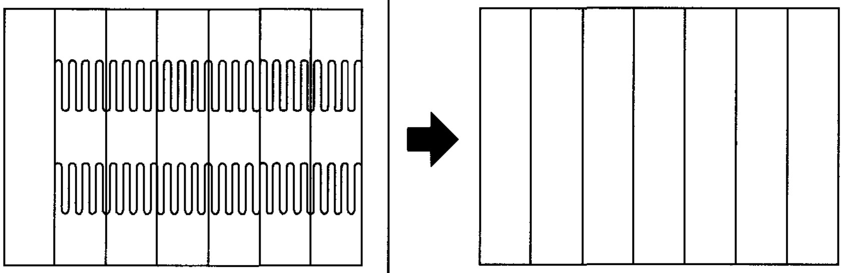
■ ADJUSTMENT METHOD

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
B1 power supply adjustment	**Voltmeter Variable transformer**	**TP-91(B1): S1 ① pin TP-E(GND): S1 ⑤ pin [MAIN PWB]**	**B1 adjust VR [MAIN PWB] SCREEN VR [Lower knob : In HVT]**	1. Set power supply voltage to **AC120V±5V**. 2. Select WHITE BALANCE BLOCK mode. 3. Select CUTOFF adjustment mode (LOW LIGHT mode). 4. Press "SERV" switch as CONTRAST key, to display the horizontal line. 5. Adjust the SCREEN VR to disappear the horizontal line. 6. Adjust "B1 adjust VR" to set the B1 voltage to **53V ±0.2V**. 7. Readjust the SCREEN VR to appear the horizontal line faintly, and cancel the horizontal line to press the "SERV" switch. **CAUTION :** HEAT SINK (H003) is energised, and not GND.
High voltage check	**High voltage meter**	**CRT Anode**	**SCREEN VR [Lower knob : In HVT]**	● B1 voltage adjustment have been finished. 1. Set power supply voltage to **AC120V±5V**. 2. Select WHITE BALANCE BLOCK mode. 3. Select CUTOFF adjustment mode (LOW LIGHT mode). 4. Press "SERV" switch as CONTRAST key, to display the horizontal line. 5. Adjust the SCREEN VR to disappear the horizontal line. 6. Connect the high voltage meter to the CRT anode and check for **23.7~26.3kV**. 7. Readjust the SCREEN VR to appear the horizontal line faintly, and cancel the horizontal line to press the "SERV" switch. **CAUTION :** HEAT SINK (H003) is energised, and not GND.
Focus adjustment	**Signal generator (Resolution pattern)**		**FOCUS VR [Upper knob : In HVT]**	1. Adjust the Focus VR for optimum focus where moire is not apparent. 2. Darken the picture and adjust the focus by tuning counter-clockwise from the position where focus is poor. 3. Alternately repeat the above steps to obtain the optimum position. ● Focus can be adjusted easily by displaying the menu.

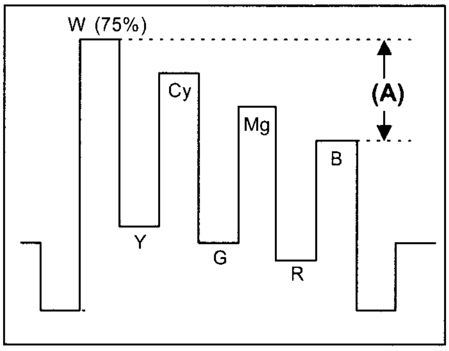
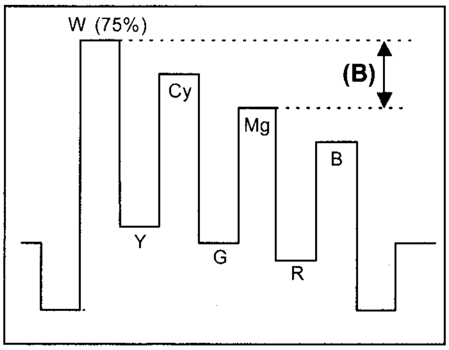
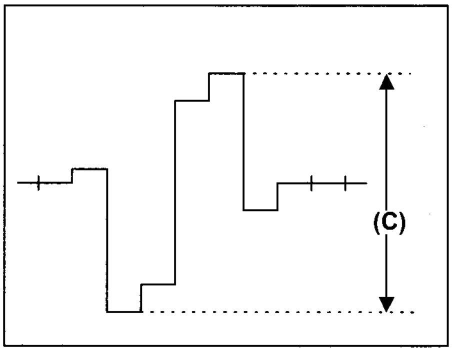
<table>
<tr><th>Item</th><th>Test equipment</th><th>Test points</th><th>Adjustment locations</th><th>Adjustment procedure</th></tr>
<tr><td>NTSC
Comb filter
adjustment</td><td>Signal generator
(NTSC color bar)
Oscillo-scope</td><td>TP-Y : S4 ①pin
[INPUT PWB]</td><td>COMB PHASE VR
COMB LEVEL VR
[INPUT PWB]</td><td>1. Input the NTSC color bar signal.
2. Connect the oscillo-scope probe to the TP-Y.
3. Adjust the COMB PHASE VR to minimize the chroma component of the green part in the color bar signal.
4. Adjust the COMB LEVEL VR to minimize the chroma component of the GREEN part in the color bar signal.
5. Alternately adjust the COMB PHASE and COMB LEVEL to adjust them correct.</td></tr>
<tr><td colspan="5">
</td></tr>
<tr><td>PAL TRAP
Filter
adjustment</td><td>Signal generator
(PAL color bar)
Oscillo-scope</td><td>TP-Y : S4 ①pin
[INPUT PWB]</td><td>PAL NOTCH TRIM.
[INPUT PWB]</td><td>1. Input the PAL color bar signal.
2. Connect the oscillo-scope probe to the TP-Y.
3. Adjust the PAL NOTCH TRIMER to minimize the chroma component of the GREEN part in the color bar signal.</td></tr>
<tr><td colspan="5">
</td></tr>
</table>

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
PAL APC Adjustment 	**Signal generator (PAL color bar)** **Oscillo-scope**	**TP-CR : S4②pin** **TP-CB : S4③pin** **[INPUT PWB]**	**APC SW** **SUB COLOR VR** **LISSAJOUS 1 TR.** **DL AMP VR** **[INPUT PWB]**	● Low light white balance adjustment have been correct finished. 1. Input the PAL color bar signal. 2. Connect the oscillo-scope probe to the TP-CR and TP-CB, and switch the sweep mode of the osciro-scope to the X-Y display. 3. Turn the APC SW to "**Adjust**" side from "**Normal**" side to cancel the color synchronous mode. 4. Adjust the SUB COLOR VR to the wave form of the lissajous not to close by each other. 5. Then alternately adjust the LISSAJOUS 1 TRANSF and DL AMP VR, so that to be 3 straight lines from 6 ovals. 6. Release the APC SW to the "**Normal**" side.
PAL chroma Synchronous adjustment 	**Signal generator (PAL full color bar)**	**SCREEN**	**APC SW** **4.43 APC TRIM.** **[INPUT PWB]**	● PAL color lissajous adjustment have been finished. 1. Input the PAL full color bar. 2. Turn the APC SW to "**Adjust**" side from "**Normal**" side to cancel the color synchronous mode. 3. Adjust the 4.43 APC TRIMER to disappear the color stripe on the screen. 4. Turn the APC SW to "**Normal**" side.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
NTSC chroma synchronous adjustment	**Signal generator** **(NTSC full color bar, NTSC sprit color bar)** **Oscillo-scope**	**SCREEN**	**APC SW** **3.58 APC TRIM.** **[INPUT PWB]**	● PAL color synchronisation adjustment have been finished. 1. Input the NTSC full color bar. 2. Turn the APC SW to "**Adjust**" side from "**Normal**" side to cancel the color synchronous mode. 3. Adjust the 3.58 APC TRIMER to disappear the color stripe on the screen. 4. Turn the APC SW to "**Normal**" side.

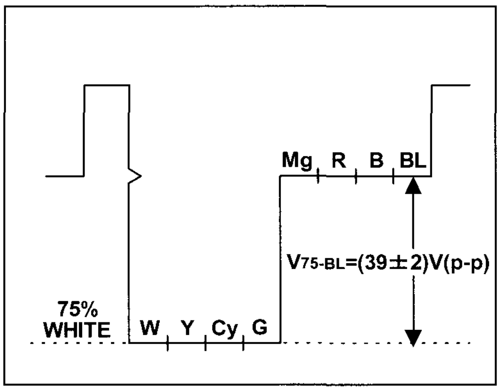


The three adjustments NTSC SUB CHROMA, NTSC SUB PHASE and PAL SUB CHROMA described in this page are basic adjustments for another three adjustments NTSC 3.58 CHROMA, NTSC 3.58 PHASE, PAL CHROMA and PAL PHASE described in a subsequent page. The adjustments shall be done by using component parts such as semi-fixed type VR. Both adjustments in this page and the subsequent page should be always done at the same time and in accordance with the specified order. Note that unilateral adjustments should be avoided.

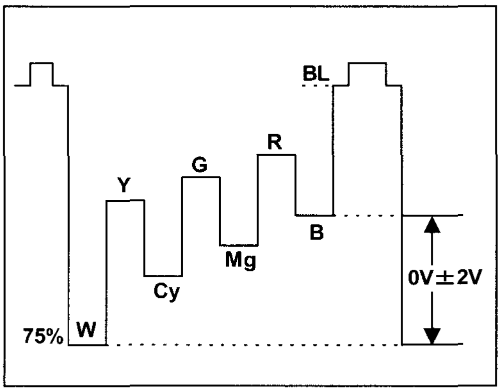
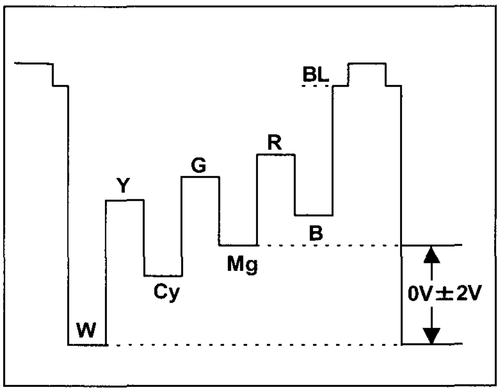
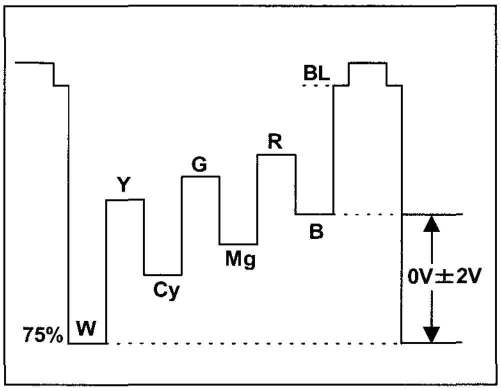
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
NTSC SUB CHROMA Adjustment	**Signal generator (NTSC full color bar) Oscillo-scope**  	**TP-B : S4 ⑤pin [INPUT PWB]**	**SUB COLOR VR [INPUT PWB]**	- Color synchronisation adjustment (NTSC & PAL) have been finished. - PAL lissajous adjustment have been finished. 1. Input the NTSC full color bar. 2. Connect the oscillo-scope to TP-B. 3. Adjust the SUB COLOR VR to bring the voltage of **(A)** in the illustration to **0±40mV**.
NTSC SUB PHASE Adjustment	**Signal generator (NTSC full color bar) Oscillo-scope**  	**TP-B : S4 ⑤ pin [INPUT PWB]**	**SUB PHASE VR [INPUT PWB]**	4. Input the NTSC full color bar. 5. Connect the oscillo-scope to TP-B. 6. Adjust the SUB PHASE VR to bring the voltage of **(B)** in the illustration to **0±40mV**.
PAL SUB CHROMA Adjustment	**Signal generator (PAL full color bar) Oscillo-scope**  	**TP-CR: S4 ②pin [INPUT PWB]**	**SUB COLOR VR [INPUT PWB]**	7. Input the PAL full color bar. 8. Connect the oscillo-scope to TP-CR. 9. Adjust the SUB COLOR VR to bring the voltage of **(C)** in the illustration to 520±20mV.

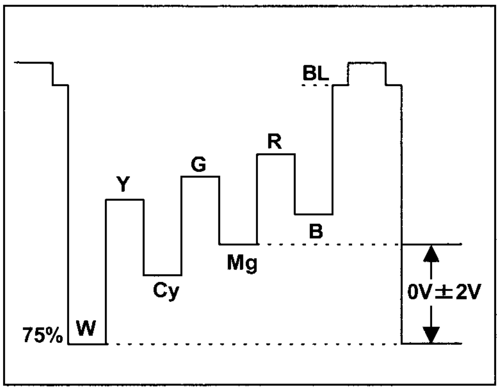
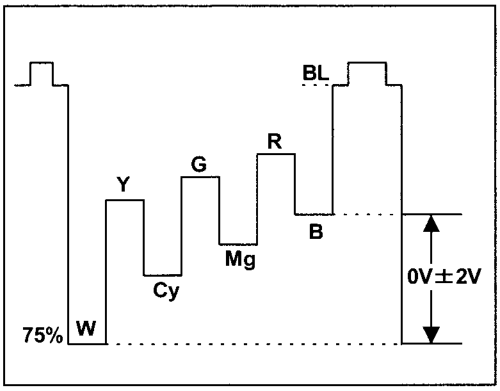
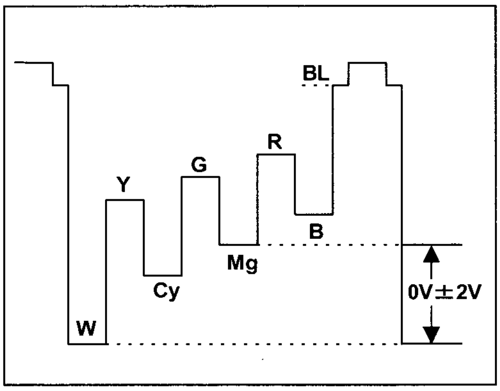
It is no requirement of the white balance adjustment by using the RGB input and under scan mode. It must be set the composite VIDEO signal input and normal scan mode when adjust the white balance.

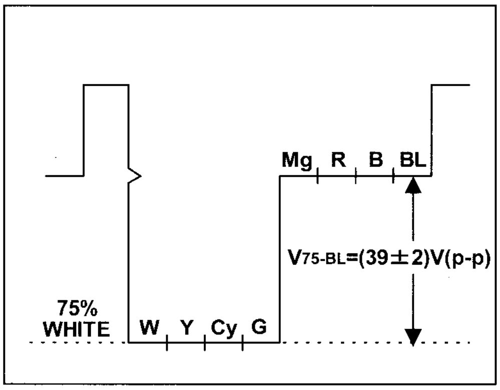
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
WHITE BALANCE (Low light) adjustment	**Signal generator (Resolution pattern)**		**W01 R CUTOFF** **W02 G CUTOFF** **W03 B CUTOFF** **[SERVICE MENU]** **SCREEN VR [Lower knob in HVT]**	● B1 voltage adjustment have been finished. 1. Input the all black signal to VIDEO input (color off). 2. Select the WHITE BALANCE block from SERVICE MENU. 3. Confirm the initial setting value of W01, W02, W03 in the WHITE BALAN block are 050. 4. Select the CUTOFF mode. 5. Press "SERV" switch as CONTRAST key, to display the horizontal line. Carefully adjust the SCREEN VR to horizontal line appears faintly, not to shine much. 6. Gradually turn the SCREEN VR from the left to the right direction to bring one of the red, green and blue colors faintly visible. 7. Then select the CUTOFF switch (R, G or B) that color except for appears first, and adjusting 2 colors CUTOFF values by pressing the +key, and make horizontal line visible white. 8. Readjust the SCREEN VR to appear the horizontal line faintly, and cancel the horizontal line to press the "SERV" switch.
WHITE BALANCE (High light) 6500K adjustment	**Signal generator (Resolution pattern)** **Color Analyzer or Color temperature meter**		**W04 R DRIVE 6500** **W05 B DRIVE 6500** **[SERVICE MENU]**	● Low light white balance adjustment have been correct finished. 1. Input the resolution pattern to VIDEO input. 2. Select the WHITE BALANCE BLOCK from the SERVICE MENU. 3. Select the 65-D mode (High light 6500 mode). 4. Apply the sensor of the Color temperature meter to the CRT surface, part of the 100% white, adjust the R drive or B drive to setting 6500K (x=0.313, y=0.329). 5. Exit the SERVICE MENU by pressing the MENU key. 6. Check the white balance tracking is optimum when CONTRAST and BRIGHT are up and down.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
WHITE BALANCE (High light) 9300K adjustment	**Signal generator (Resolution pattern)** **Color Analyzer or Color temperature meter**		**W06 R DRIVE 9300** **W07 B DRIVE 9300** **[SERVICE MENU]**	● Low light white balance adjustment have been correct finished. 1. Input the resolution pattern to VIDEO input. 2. Select the WHITE BALANCE BLOCK from the SERVICE MENU. 3. Select the 93-D mode (High light 9300 mode). 4. Apply the sensor of the Color temperature meter to the CRT surface, part of the 100% white, adjust the R drive or B drive to setting 9300K (x=0.283, y=0.297). 5. Exit the SERVICE MENU by pressing the MENU key. 6. Check the white balance tracking is optimum when CONTRAST and BRIGHT are up and down.
Bright adjustment	**Signal generator (Sprit color bar)**		**S01 (BRIGHT)** **[SERVICE MENU]**	● Low light white balance adjustment have been correct finished. 1. Input a sprit color bar signal. 2. Select the SIGNAL BLOCK from the SERVICE MENU. 3. Select the S01 item. 4. Adjust S01 to where the sprit color bar 0% black component faintly brightens. 5. Check it to on and off the screen display by turning the "DISP" switch.
Contrast adjustment  	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47G** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S02 (CONTRAST)** **[SERVICE MENU]**	1. Input a full color bar signal. (75 / 0 / 75 / 0) 2. Connect the oscillo-scope probe to TP-47G and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S02 item. 5. Adjust S02 to set the waveform level to (39±2) V(p-p) as shown in figure.

Prior to adjusting PAL CHROMA, PAL PHASE, NTSC 3.58 CHROMA and NTSC 3.58 PHASE, adjustments of PAL system should always be done first.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
PAL CHROMA adjustment	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47B** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S03** **(PAL CHROMA)** **[SERVICE MENU]**	1. Input a PAL color bar signal. 2. Connect the oscillo-scope probe to TP-47B and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S03 item. 5. Adjust the S03 to take the level difference in waveform is **0V±2V** as shown in figure.
				
PAL PHASE adjustment	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47B** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S11 (PAL PHASE)** **[SERVICE MENU]**	1. Input a PAL color bar signal. 2. Connect the oscillo-scope probe to TP-47B and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S11 item. 5. Adjust the S11 to take the level difference in waveform is **0V±2V** as shown in figure.
				
NTSC 3.58 CHROMA adjustment	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47B** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S04** **(NTSC CHROMA)** **[SERVICE MENU]**	1. Input a NTSC 3.58 color bar signal. 2. Connect the oscillo-scope probe to TP-47B and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S04 item. 5. Adjust the S04 to take the level difference in waveform is **0V±2V** as shown in figure.
				

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
NTSC 3.58 PHASE adjustment  	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47B** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S05 (NTSC PHASE)** **[SERVICE MENU]**	1. Input a NTSC 3.58 color bar signal. 2. Connect the oscillo-scope probe to TP-47B and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S05 item. 5. Adjust the S05 to take the level difference in waveform is **0V±2V** as shown in figure.
COMPONENT CHROMA Adjustment  	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47B** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S06 (COMPONENT CHROMA)** **[SERVICE MENU]**	1. Input a COMPONENT color bar signal (75 / 0 / 75 / 0). 2. Connect the oscillo-scope probe to TP-47B and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S06 item. 5. Adjust the S06 to take the level difference in waveform is **0V±2V** as shown in figure.
COMPONENT PHASE adjustment  	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47B** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S12 (COMPONENT PHASE)** **[SERVICE MENU]**	1. Input a COMPONENT color bar signal (75 / 0 / 75 / 0). 2. Connect the oscillo-scope probe to TP-47B and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S12 item. 5. Adjust the S12 to take the level difference in waveform is **0V±2V** as shown in figure.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
RGB Bright adjustment	**Signal generator (Sprit color bar)**		**S07 (BRIGHT) [SERVICE MENU]**	1. Input a sprit color bar signal to the R, G, B and SYNC terminal. 2. Select the SIGNAL BLOCK from the SERVICE MENU. 3. Select the S07 item. 4. Adjust S07 to where the sprit color bar 0% black component faintly brightens. 5. Check it to on and off the screen display by turning the "DISP" switch.
RGB Contrast adjustment  Mg R B BL V75-BL=(39±2)V(p-p) 75% WHITE W Y Cy G	**Signal generator (Color bar)** **Oscillo-scope**	**TP-47G** **TP-E(⏚)** **[CRT SOCKET PWB]**	**S08 (CONTRAST) [SERVICE MENU]**	1. Input a full color bar signal to the R, G, B and SYNC terminal. 2. Connect the oscillo-scope probe to TP-47G and TP-E(⏚). 3. Select the SIGNAL BLOCK from SERVICE MENU. 4. Select the S08 item. 5. Adjust S08 to set the waveform level to **(39±2) V(p-p)** as shown in figure.

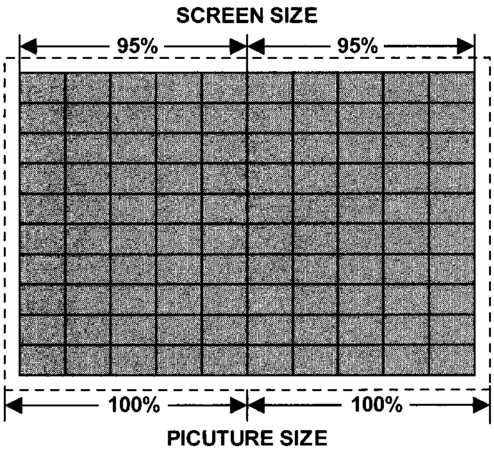
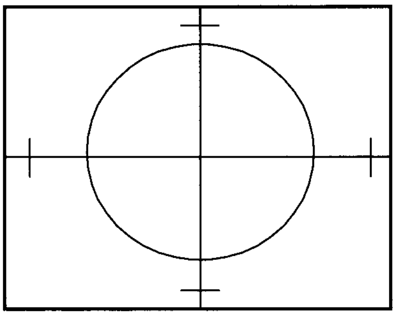
■ DEFLECTION CIRCUIT ADJUSTMENT

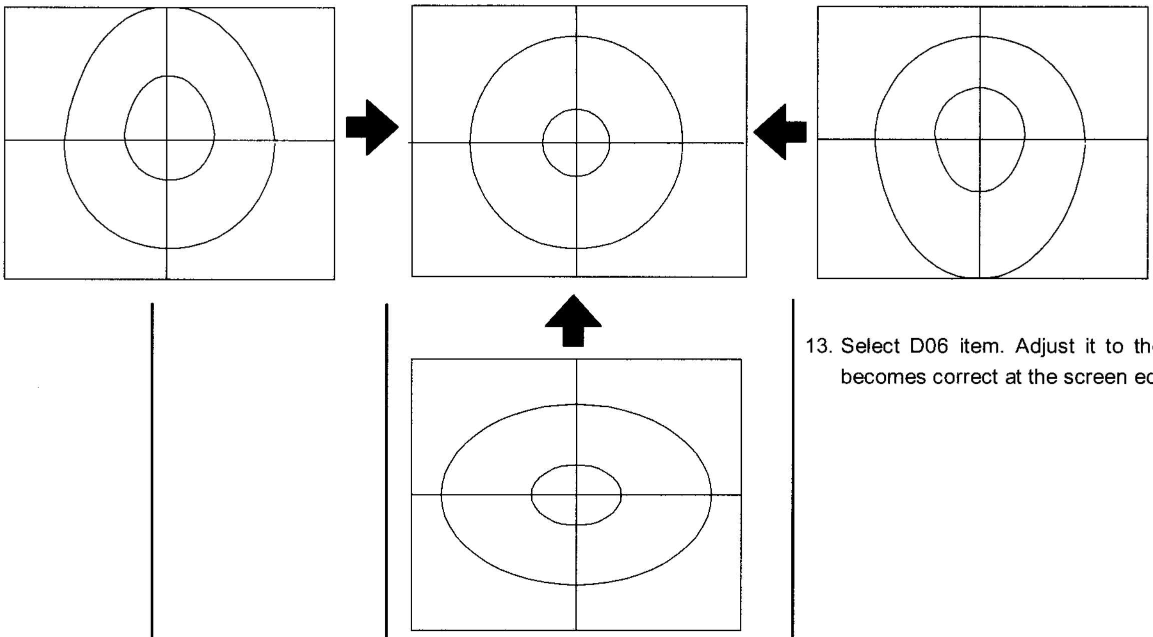
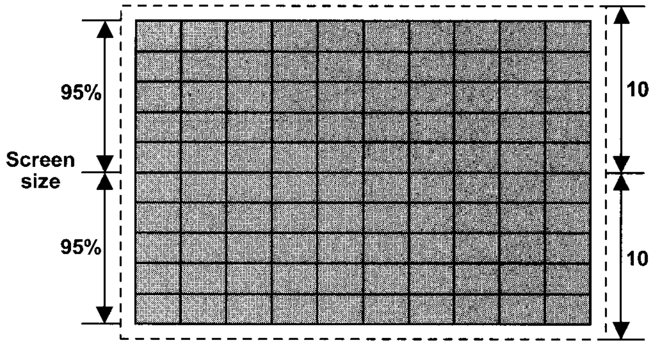
There are 6 modes of DEFLECTION ADJUSTMENT depending upon the kind of input signals.

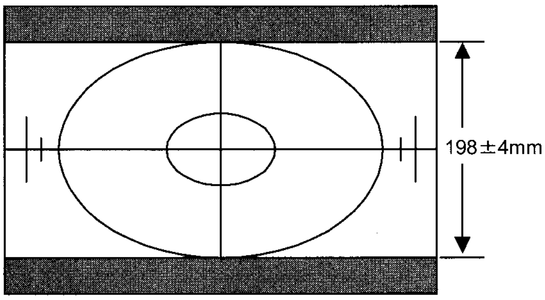
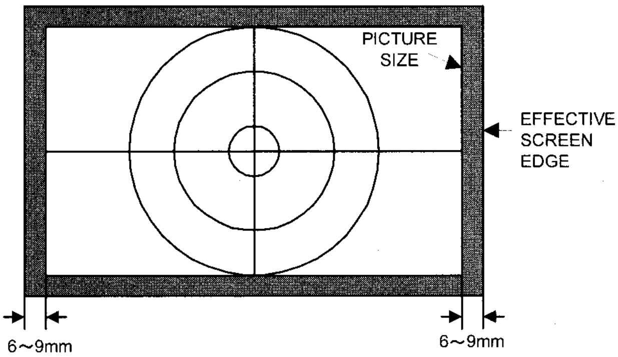
The adjustments must always be carried out in regular sequence given below.

DATA MODE		SERVICE NUMBER IN SERVICE MENU	SETTING DATA VALUE
4:3	50Hz (PAL)	D0∗	D0∗
	60Hz (NTSC)	DA∗	D0∗ + DA∗
16:9	50Hz (PAL)	DB∗	D0∗ + DB∗
	60Hz (NTSC)	DC∗	D0∗ + DA∗ + DC∗
UNDER SCAN	50Hz (PAL)	DD∗	D0∗ + DD∗
	60Hz (NTSC)	DE∗	D0∗ + DA∗ + DE∗

If you change the figures in the course of the adjustments by returning to the preceding steps, all adjustments come to nothing.
The screen aspect ratio 4 : 3 at 50Hz (PAL) is regarded as the reference value for all adjustments. The other values obtained in the adjustments using other signals become the off-set values as opposed to the reference values.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
H.CENTER H.SIZE adjustment 	**Signal generator (Cross-hatch pattern)**		**D01 (H.CENTER) D02 (H.SIZE) [SERVICE MENU]**	1. Input a PAL (50Hz) cross hatch pattern signal. 2. Select DEFLECTION BLOCK from SERVICE MENU. 3. Select D01 item. 4. Adjust D01 to align the picture center with the CRT center. 5. Adjust D02 to set horizontal size to 95%. 6. Repeat above step 4 and 5 to adjust correctly.
V.CENTER adjustment 	**Signal generator (Circle pattern)**		**D03 (V.CENTER) [SERVICE MENU]**	7. Input the circle pattern signal. 8. Select D03 item. 9. Adjust D03 to agree with CRT center and signal center of vertical direction.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
V.LINEARITY Adjustment	**Signal generator (Circle pattern)**		**D04 (V.SIZE)** **D05 (V.LIN)** **D06 (V.S.COR)** **[SERVICE MENU]**	10. Input the circle pattern signal. 11. Select D04 item, and adjust it to be able to view the screen top and bottom 100%. 12. Select D05 item. As shown in the figure, adjust it to the vertical scan ratio and vertical linearity becomes regular condition.  13. Select D06 item. Adjust it to the circle pattern becomes correct at the screen edge and center.
V.SIZE Adjustment	**Signal generator (Cross-hatch pattern)**		**D04 (V.SIZE)** **D03 (V.CENTER)**	14. Input the cross-hatch pattern signal. 15. Select D04 item, and adjust it to the vertical scan size to 95%. 16. Adjust the D03 item to agree with the signal center of vertical direction and the CRT center. 

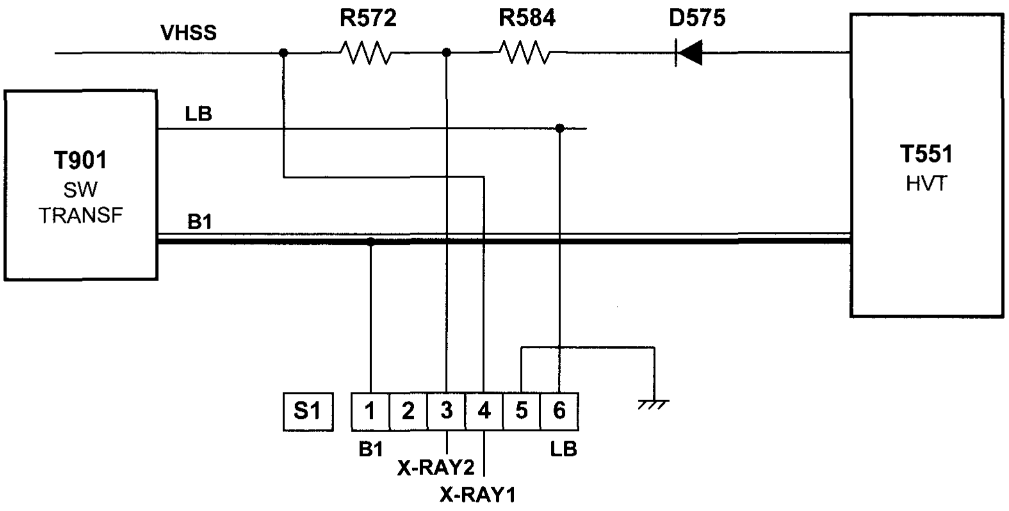
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
16:9 V.SIZE Adjustment	**Signal generator (Circle pattern)** 		**DC04 (V.SIZE) [SERVICE MENU]**	17. Input the circle pattern signal. 18. Switch the aspect ratio to the 16:9 in the menu screen. 19. Select DC04, and adjust it to the vertical scan size becomes to the value given the table below. **Vertical scan size** : 198±4 mm 20. Switch the aspect ratio to the 4:3.
UNDER SCAN H.SIZE, H.CENTER Adjustment	**Signal generator (circle pattern)** 		**DE1 (H.CENTER) DE2 (H.SIZE) [SERVICE MENU]**	21. Input the circle pattern signal. 22. Switch to the under scan mode. 23. Select DE01 item, and adjust it to the balancing zone of the left and right area becomes equal. 24. Select DE02 item, and adjust it to the horizontal blanking frame size becomes to the value given the table below. **horizontal blanking size** : 6~9 mm 25. Switch to the normal scan.

■ HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

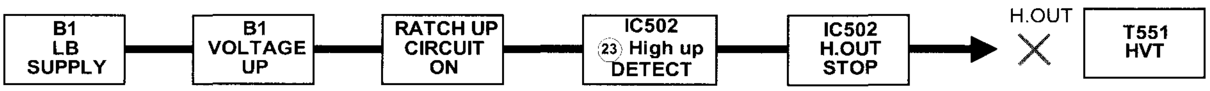
MEASURING INSTRUMENTS

- Fixed external DC power source (16.5V : Current capacitor over than 1A).
- Variable external DC power source (50V～150V : Current capacitor over than 1.2A).
- High voltage meter.

1) Memorize the position of SCREEN VR before adjustment.
2) Input the black and white signal(color off) and decrease the SCREEN VR so that the picture does not appear on the screen.
3) Switch off the power and disconnect the power cord from the outlet.
4) Connect the probe of the HIGH VOLTAGE METER to the anode terminal of the CRT.
5) Using the fixed external DC power source, supply the DC voltage of 16.5V to No.6 pin of the S1 connector of the MAIN PWB.
6) Using the variable external power source, supply the DC voltage of 53V to No.1 pin of the S1 connector of the MAIN PWB.
7) While gradually increasing the voltage of the variable DC power supply from 53V, make sure that the voltage immediately before the HIGH VOLTAGE METER shuts down has fallen into the range of 26.4kV~31.2kV.
8) Return the voltage of the variable external power source to 53V and remove the power source and HIGH VOLTAGE METER.
9) After connecting the power cord to the outlet, switch on the power.
10) Return the SCREEN VR to the original position, and make sure that the normal picture is displayed on the screen.



FLOW CHART



■ SELF CHECK FUNCTION

1. OUTLINE

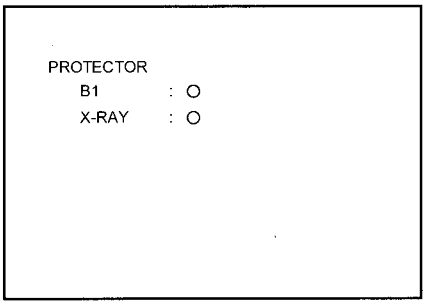
This model includes a SELF DIAGNOSIS FUNCTION that checks the circuit operating status and in event of malfunction, displays and stores the data in a memory. The data are stored in an I^2C memory.
Fault detection starts with the I^2C bus and is performed according to the input states of the control lines connected to the MAIN CPU.

2. USAGE

SELF DIAGNOSIS FUNCTION mode entry

(1) While press the **MENU** key and **CHROMA** key simultaneously, and push the MAIN POWER switch on.

(2) Then displays the SELF DIAGNOSIS FUNCTION screen. The screen indicates as shown in the table and the SELF DIAGNOSIS FUNCTION mode is entered. If in event a malfunction at RASTER not display, at this time POWER LED flashes.



PROTECTOR
B1 : O
X-RAY : O

CAUSE	LED FLASHING CYCLE
X-RAY PROTECTOR	0.1 sec on / 0.1 sec off cycles
OVER CURRENT PROTECTOR	1.0 sec on / 1.0 sec off cycles

SELF DIAGNOSIS FUNCTION mode release

Turn the power switch to off or disconnect the power cord from AC outlet. In this way, not to clear the error counts.

Reset the error count

While entered in this mode, press the **MENU** key **BRIGHT** key and simultaneously. Then clear the error count of the each item.

Fault history

The fault history counts up to a maximum of 9 times for each item. If the number of times exceeds 9, the display remains at 9. The fault history remains stored in the memory until deleted.

CONTENTS

CHECK ITEM	DISPLAY	DETECTION CONTENTS
POWER AND DEF CIRCUIT	B1 X-RAY	over current protector operation and over voltage protector operation.

TM-1650SDU STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1. SAFETY

The components identified by the⚠ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal :PAL Colour bar signal
(2)Setting positions of each knob/button and variable resistor :Original setting position when shipped
(3)Internal resistance of tester :DC 20kΩ/V
(4)Oscilloscope sweeping time :H ⇒ 20μS/div
:V ⇒ 5mS/div
:Others ⇒ Sweeping time is specified
(5)Voltage values :All DC voltage values

∗ Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

●In the PW board :R1209→R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

●Resistance value
No unit :[Ω]
K :[KΩ]
M :[MΩ]

●Rated allowable power
No indication :1/10[W]
Others :As specified

●Type
No indication :Carbon resistor
OMR :Oxide metal film resistor
MFR :Metal film resistor
MPR :Metal plate resistor
UNFR :Uninflammble resistor
FR :Fusible resistor

*Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

●Capacitance value
1 or higher :[pF]
less than 1 :[μF]

●Withstand voltage
No indication :DC50[V]
Others :DC withstand voltage [V]
AC indicated :AC withstand voltage [V]

*Electrolytic Capacitors
47/50[Example]:Capacitance value [μF]/withstand voltage[V]

●Type
No indication :Ceramic capacitor
MY :Mylar capacitor
MM :Metalized mylar capacitor
PP :Polypropylene capacitor
MPP :Metalized polypropylene capacitor
MF :Metalized film capacitor
TF :Thin film capacitor
BP :Bipolar electrolytic capacitor
TAN :Tantalum capacitor

(3)Coils
No unit :[μH]
Others :As specified

(4)Power Supply
═════ :B1
■■■■ :B2 (12V)
■□■□ :9V
□□□□ :5V

*Respective voltage values are indicated

(5)Test point
◉ :Test point
○ :Only test point display

(6)Connecting method
□ :Connector
○ :Wrapping or soldering
→≻ →⊁ :Receptacle

(7)Ground symbol
⊥ :LIVE side ground
⫫ :ISOLATED(NEUTRAL) side ground
⏚ :EARTH ground
▽ :DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⫫) side GND. Therefore, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected , a fuse or any parts will be broken.

◇**Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

May 2000 No.51702

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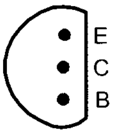
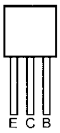
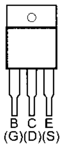
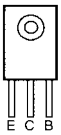
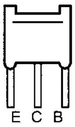
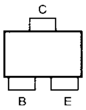
SEMICONDUCTOR SHAPES

TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

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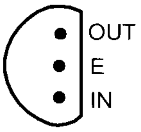
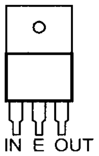
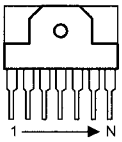
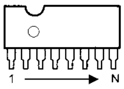
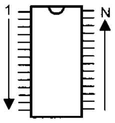
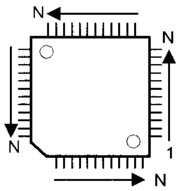
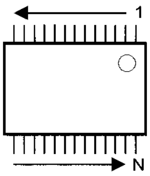
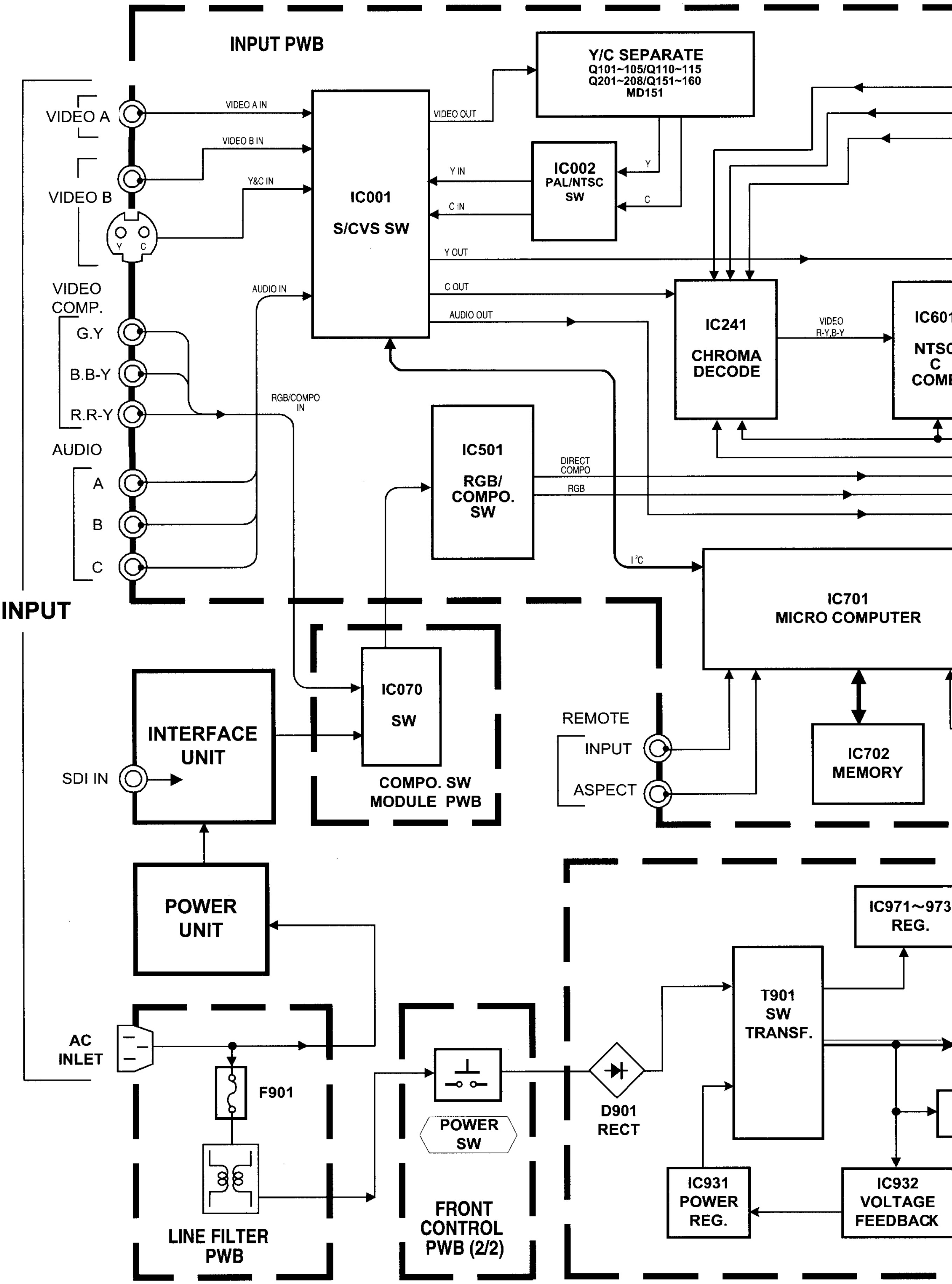
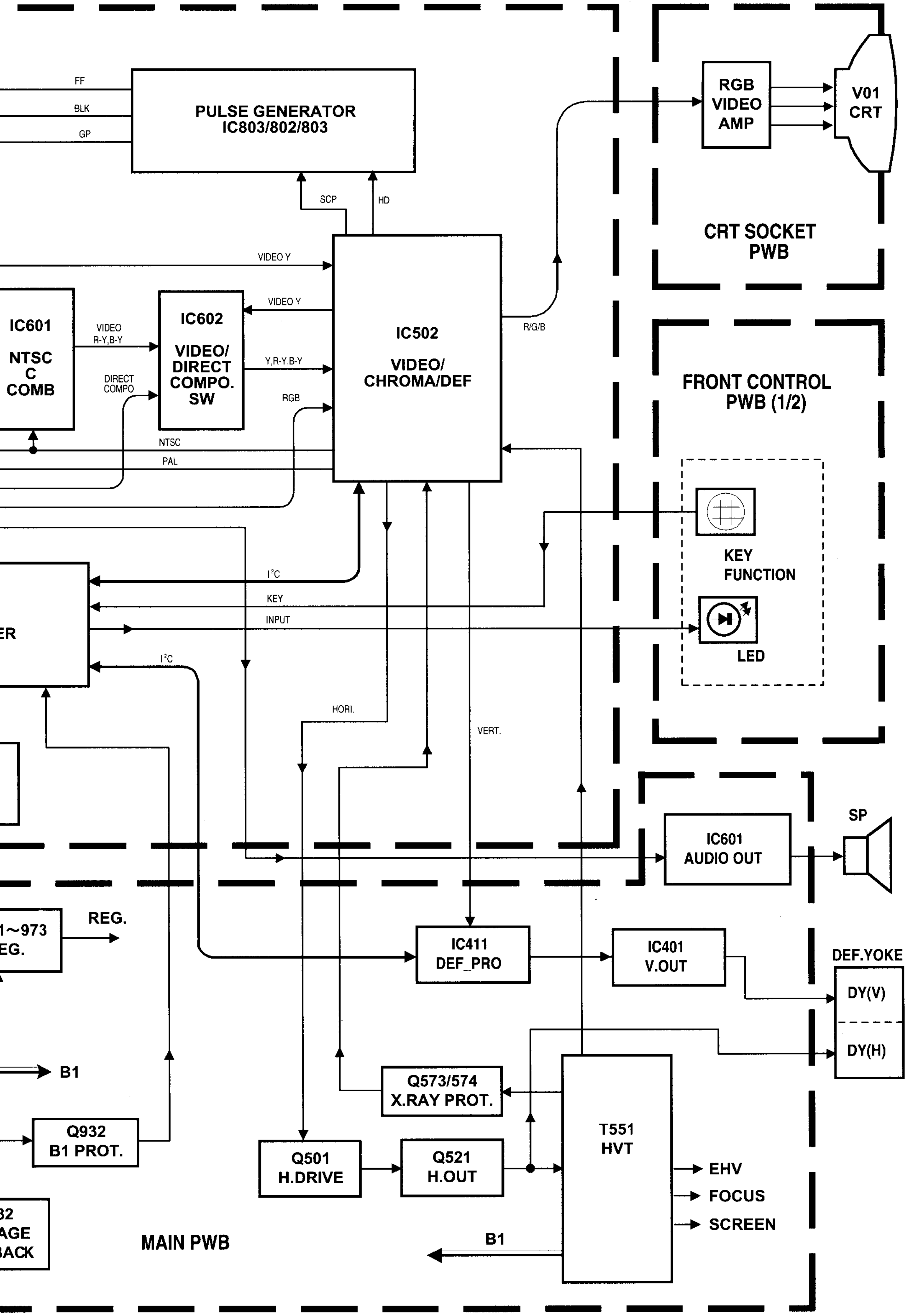
BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

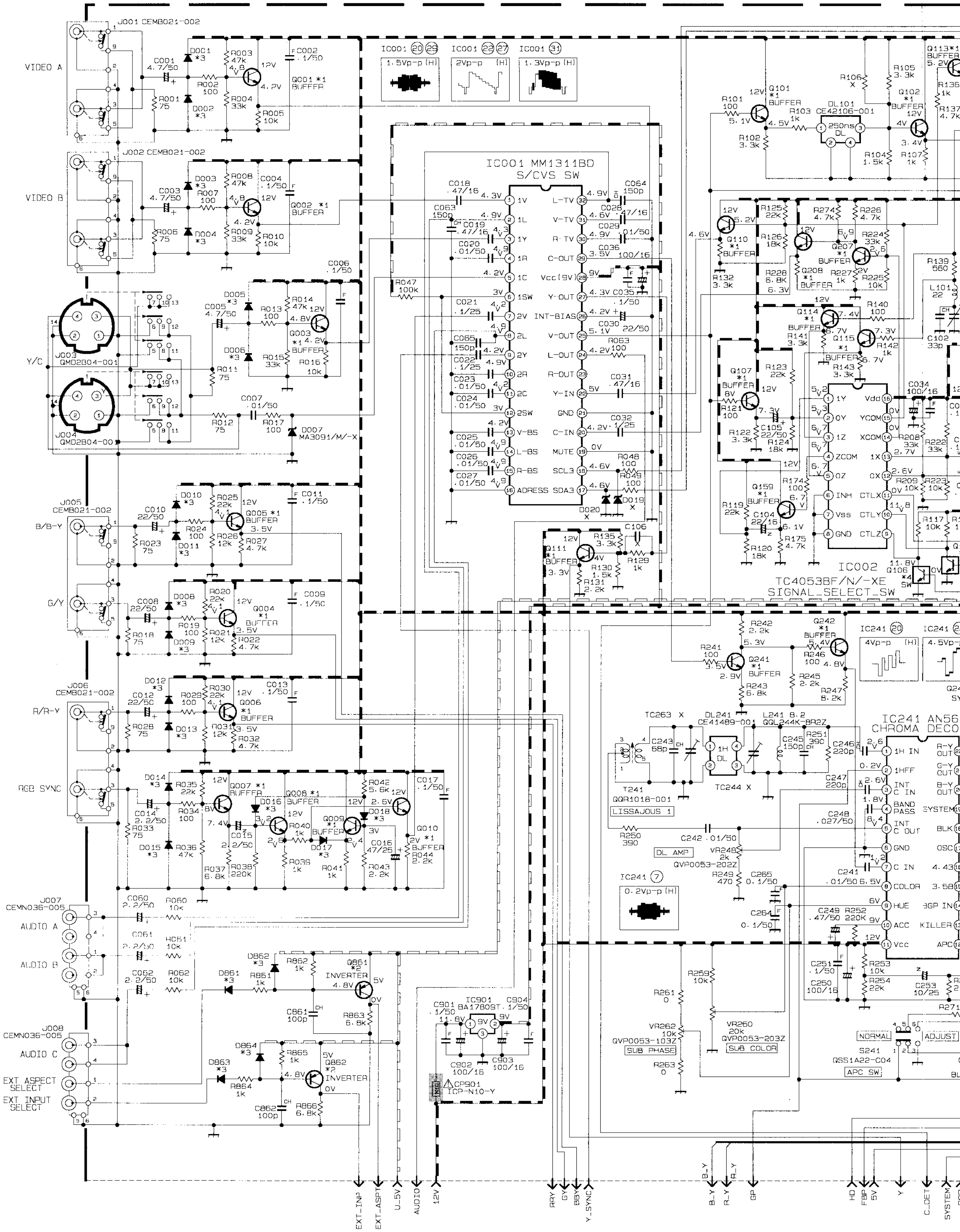
TOP VIEW		
		

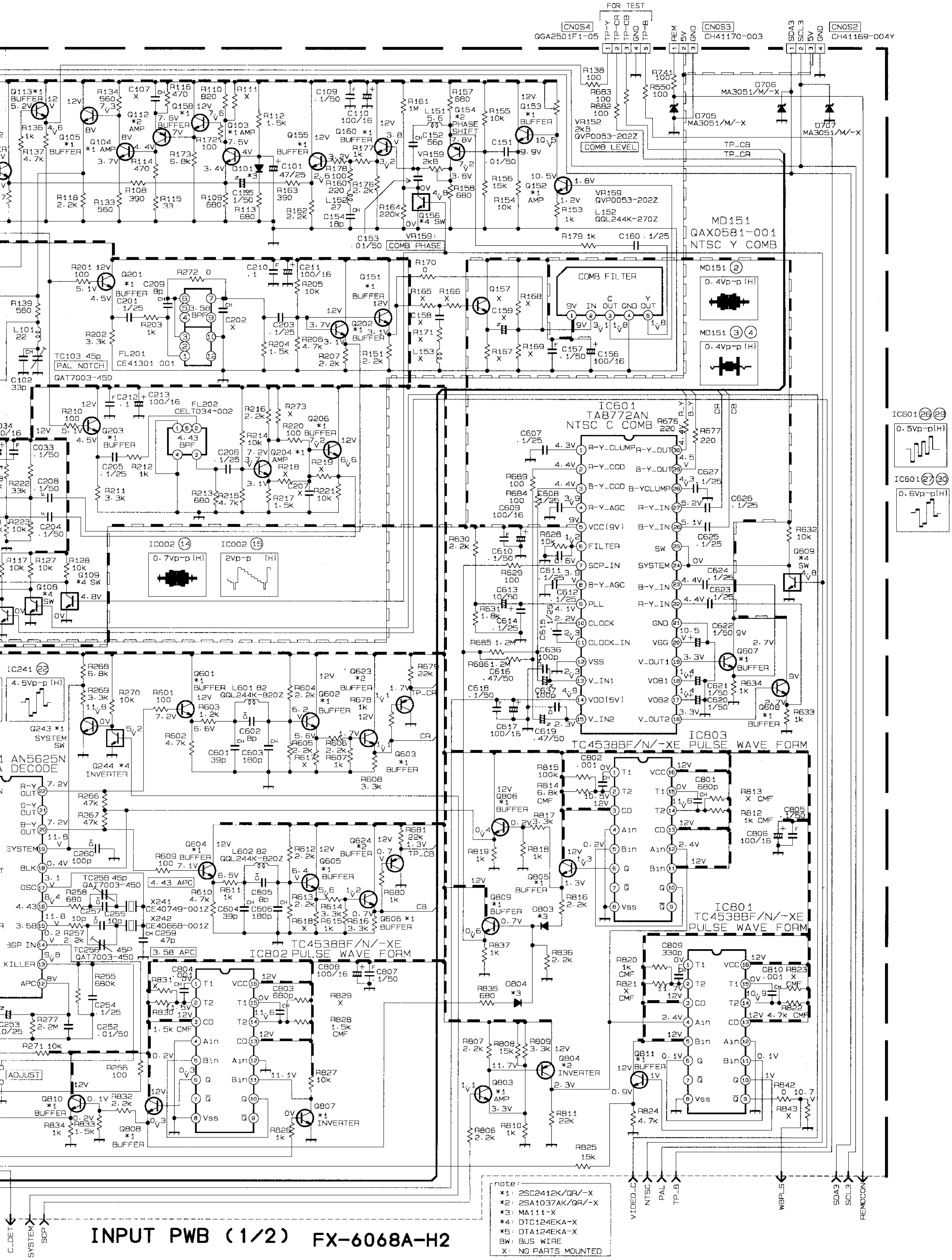
BLOCK DIAGRAM




FF
BLK
GP
PULSE GENERATOR
IC803/802/803
SCP
HD
RGB
VIDEO
AMP
V01
CRT
CRT SOCKET
PWB
VIDEO Y
VIDEO Y
IC601
NTSC
C
COMB
VIDEO
R-Y,B-Y
DIRECT
COMPO
IC602
VIDEO/
DIRECT
COMPO.
SW
Y,R-Y,B-Y
RGB
IC502
VIDEO/
CHROMA/DEF
R/G/B
NTSC
PAL
FRONT CONTROL
PWB (1/2)
KEY
FUNCTION
LED
I²C
KEY
INPUT
ER
I²C
HORI.
VERT.
SP
IC601
AUDIO OUT
1~973
EG.
REG.
IC411
DEF_PRO
IC401
V.OUT
DEF.YOKE
DY(V)
DY(H)
B1
Q573/574
X.RAY PROT.
Q932
B1 PROT.
T551
HVT
Q501
H.DRIVE
Q521
H.OUT
EHV
FOCUS
SCREEN
32
AGE
ACK
MAIN PWB
B1

CIRCUIT DIAGRAMS *INPUT PWB CIRCUIT DIAGRAM*

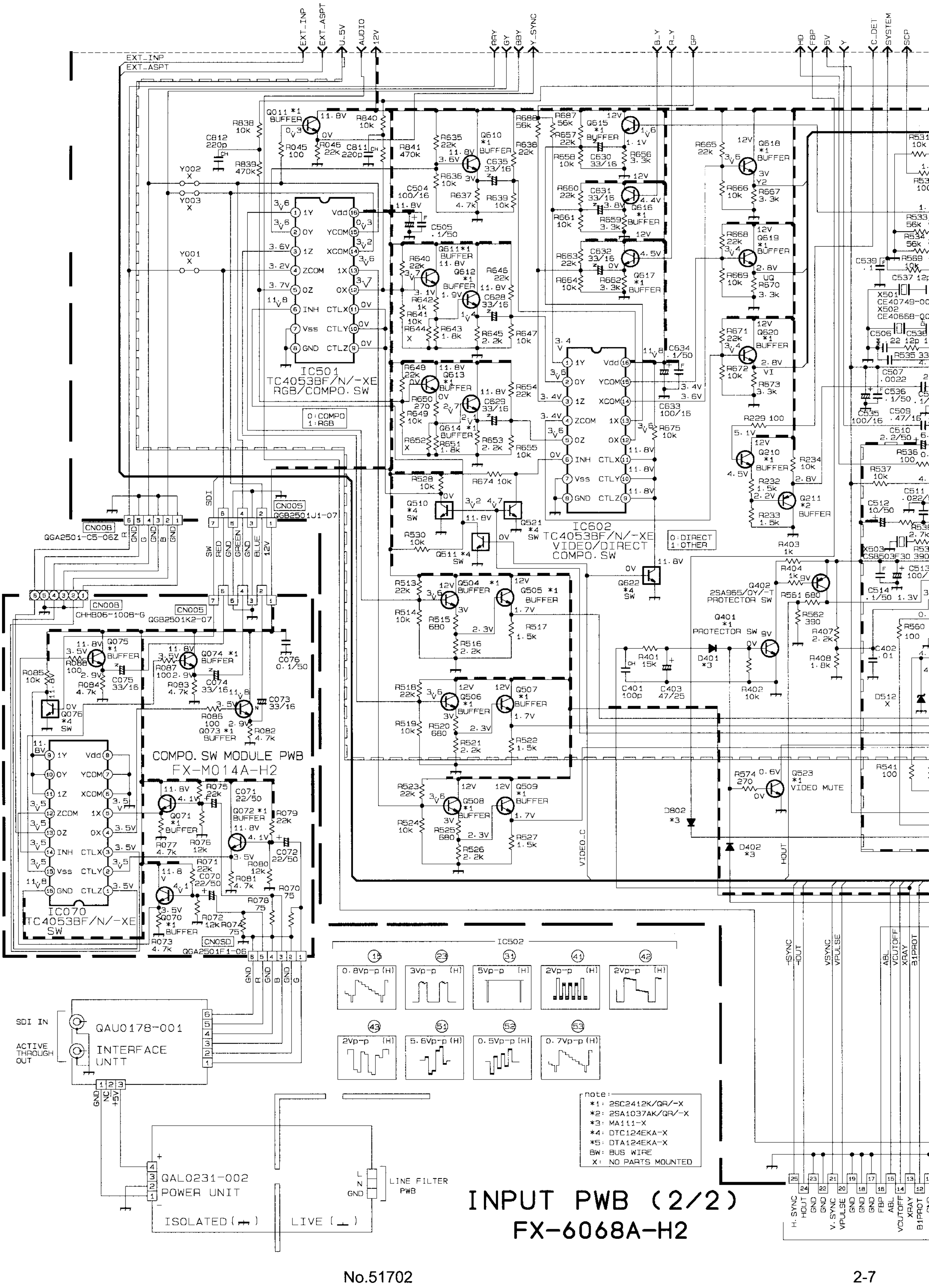


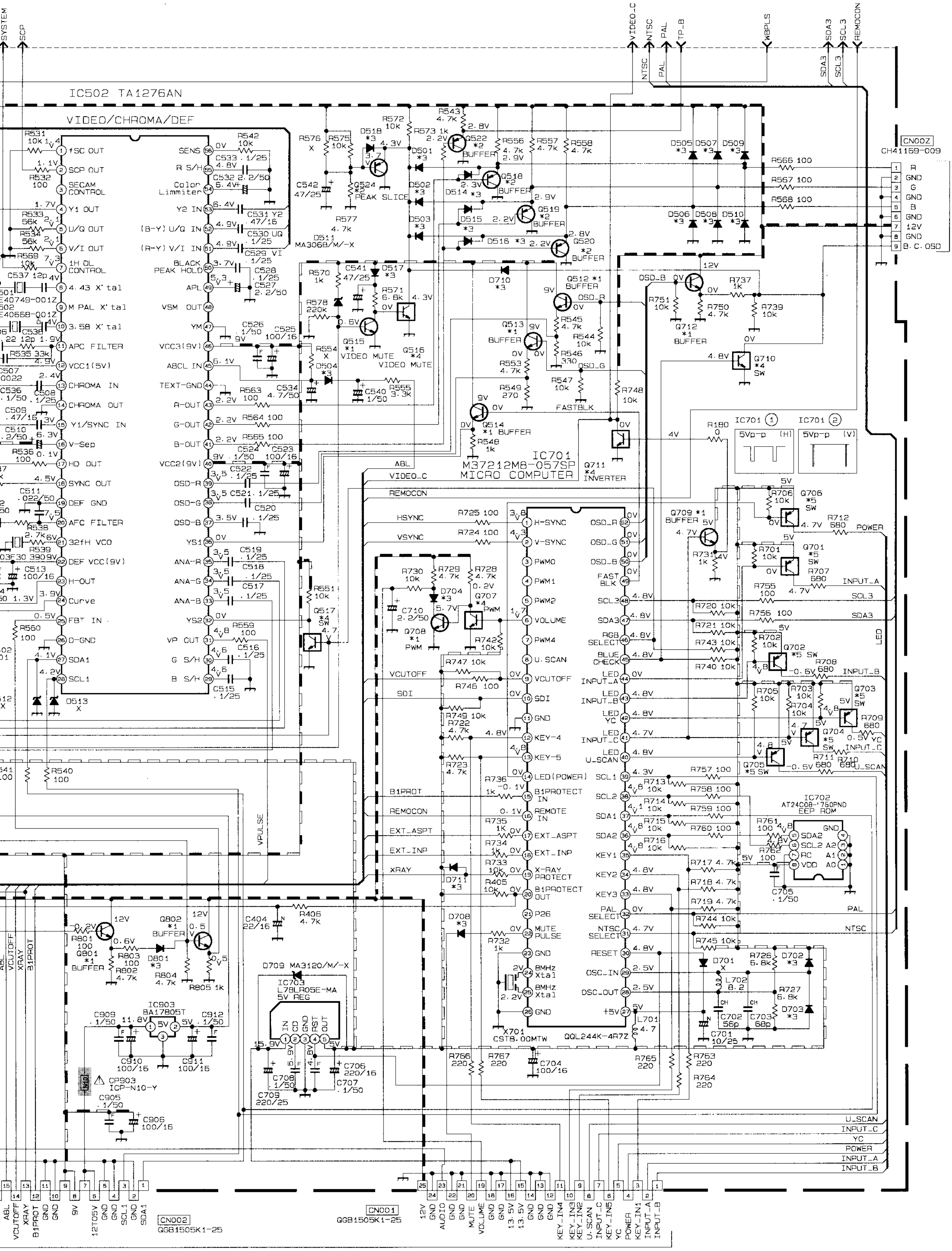


note:
- *1: 2SC2412K/QR/-X
- *2: 2SA1037AK/QR/-X
- *3: MA111-X
- *4: DTC124EKA-X
- *5: DTA124EKA-X
- BW: BUS WIRE
- X: NO PARTS MOUNTED

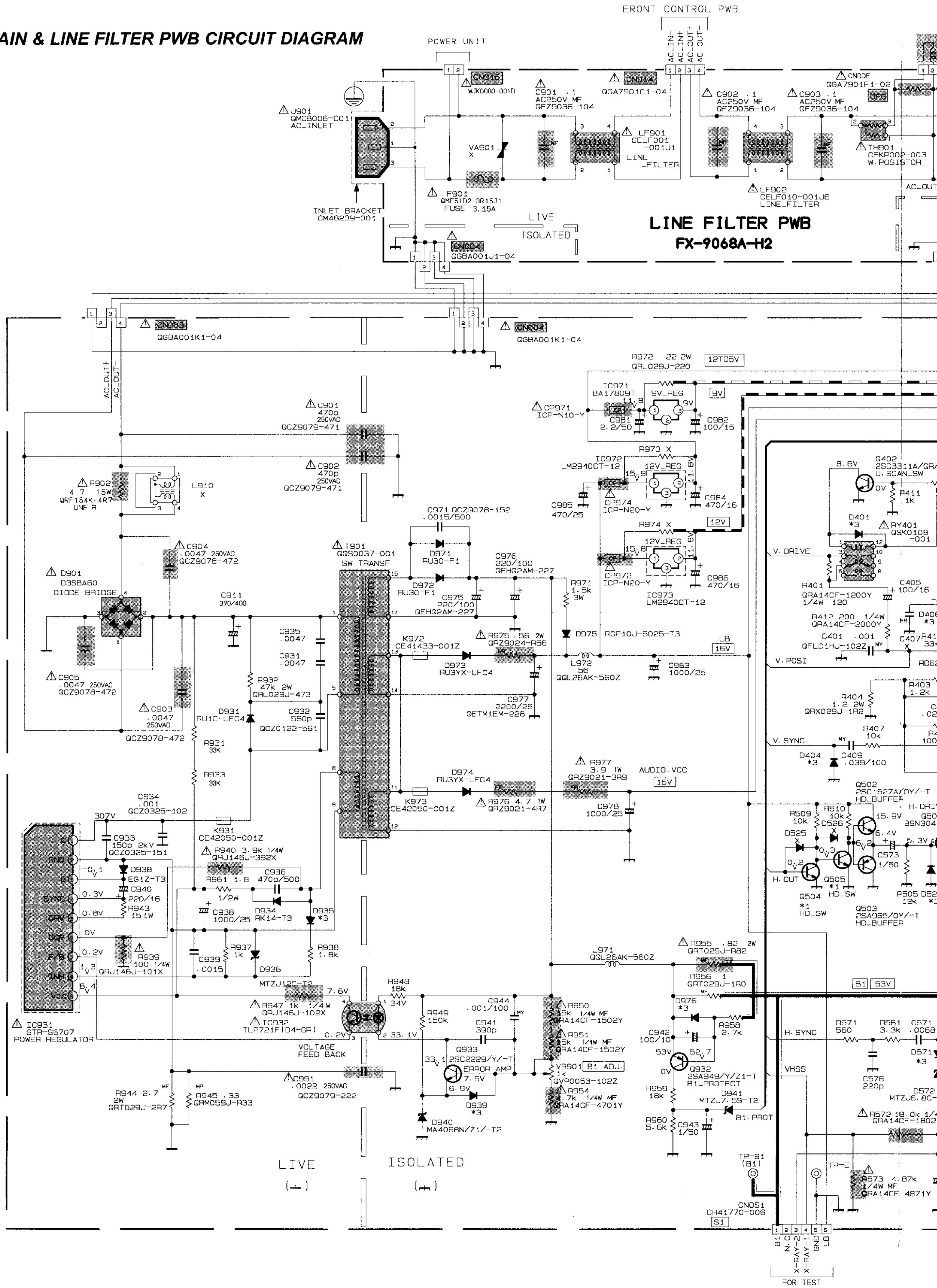
INPUT PWB (1/2) FX-6068A-H2

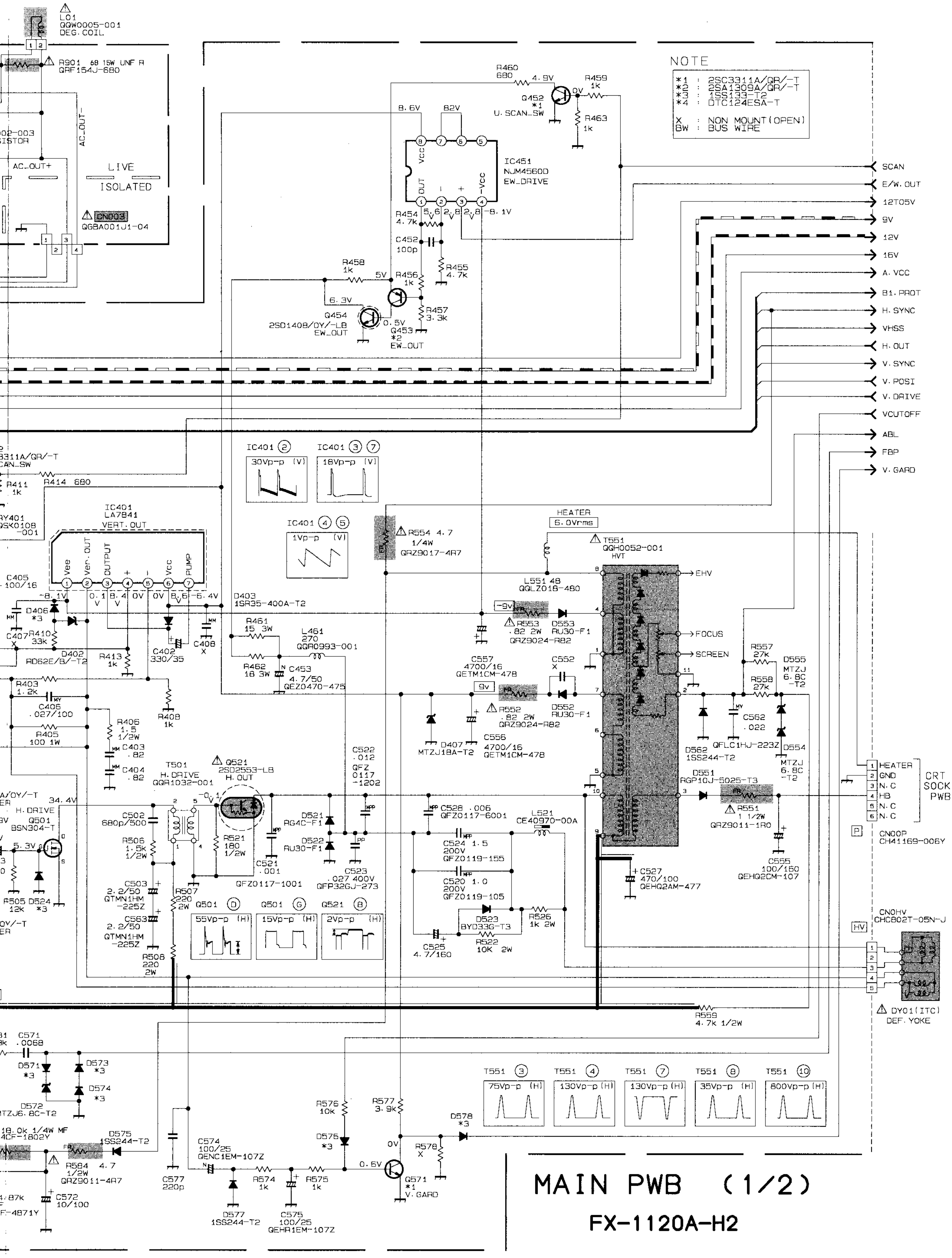
INPUT & COMPO. SW MODULE PWB CIRCUIT DIAGRAM




IC502 TA1276AN
VIDEO/CHROMA/DEF
IC701
M37212M8-057SP
MICRO COMPUTER
IC702
AT24C08-¹750PND
EEP ROM
IC703
L78LR05E-MA
5V REG
IC903
BA17805T
CN002
CH41159-009
CRT SOCKET PWB
R
GND
G
GND
B
GND
12V
GND
B.C.OSD
IC701 ①
IC701 ②
5Vp-p (H)
5Vp-p (V)
Q512 *1 BUFFER
Q513 *1 BUFFER
Q514 *1 BUFFER
Q515 *1 VIDEO MUTE
Q516 *4 VIDEO MUTE
Q517 *4 SW
Q518 *2 BUFFER
Q519 *2 BUFFER
Q520 *2 BUFFER
Q522 *2 BUFFER
Q524 *2 PEAK SLICE
Q701 *5 SW
Q702 *5 SW
Q703 *5 SW
Q704 *5 SW
Q705 *5 SW
Q706 *5 SW
Q707 *4 PWM
Q708 *1 PWM
Q709 *1 BUFFER
Q710 *4 SW
Q711 *4 INVERTER
Q712 *1 BUFFER
Q801 *1 BUFFER
Q802 *1 BUFFER
D709 MA3120/M/-X
D511 MA3068/M/-X
X701 CSTB.00MTW
QQL244K-4R7Z
CP903 ICP-N10-Y
SYSTEM
SCP
VIDEO_C
NTSC
PAL
TP_B
WBPLS
SDA3
SCL3
REMOCON
POWER
INPUT_A
INPUT_B
INPUT_C
U_SCAN
YC
LED
ABL
VCUTOFF
SDI
HSYNC
VSYNC
B1PROT
EXT_ASPT
EXT_INP
XRAY
VPULSE
FASTBLK
OSD_R
OSD_G
OSD_B
CN002
QGB1505K1-25
CN001
QGB1505K1-25
MAIN PWB
ABL
VCUTOFF
XRAY
B1PROT
GND
GND
9V
12TO5V
GND
GND
SCL1
GND
SDA1
12V
GND
AUDIO
GND
GND
MUTE
VOLUME
GND
GND
13.5V
13.5V
GND
GND
KEY_IN4
KEY_IN3
KEY_IN2
U.SCAN
INPUT_C
KEY_IN5
YC
POWER
KEY_IN1
INPUT_A
INPUT_B

MAIN & LINE FILTER PWB CIRCUIT DIAGRAM

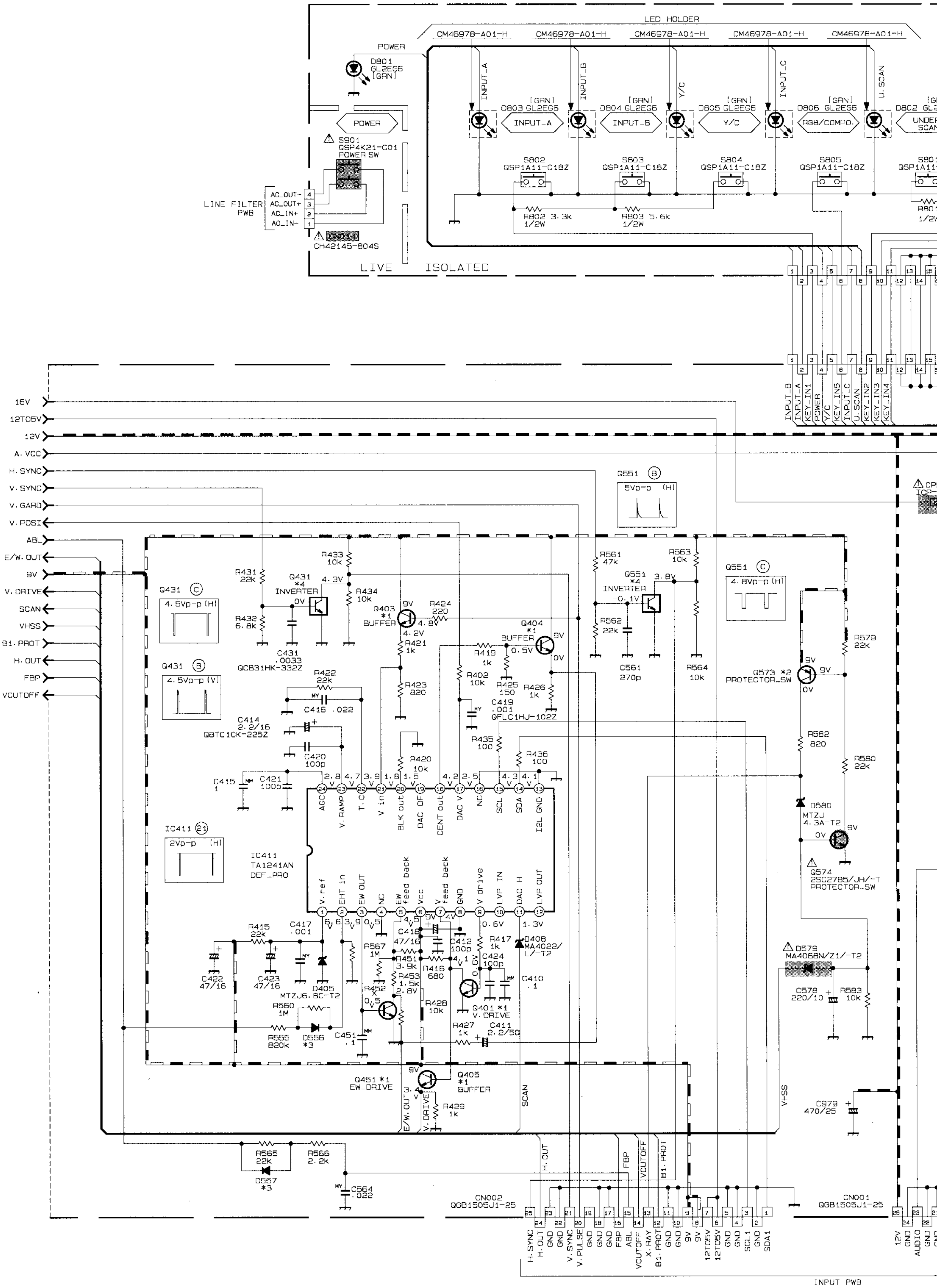


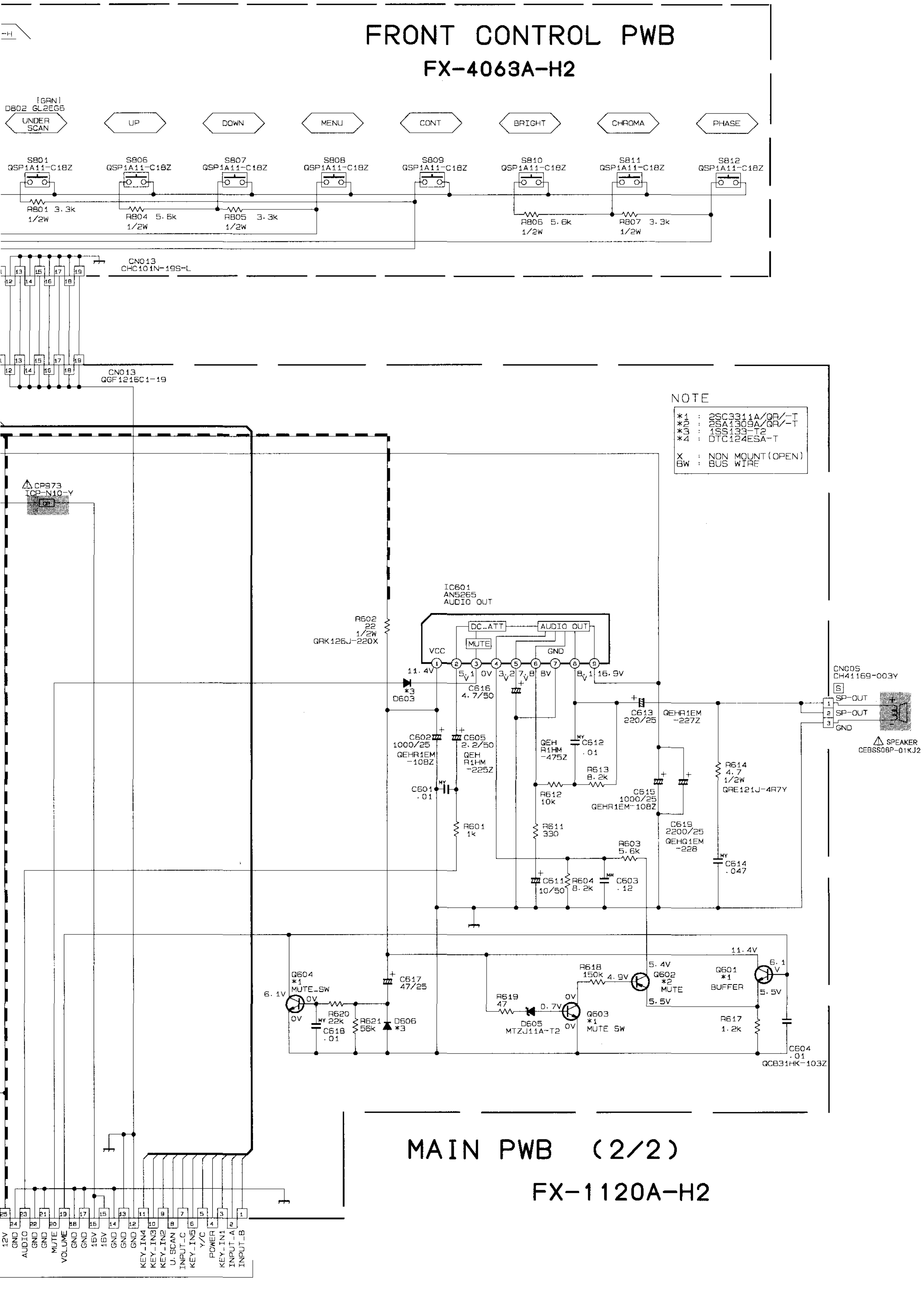


MAIN PWB (1/2)

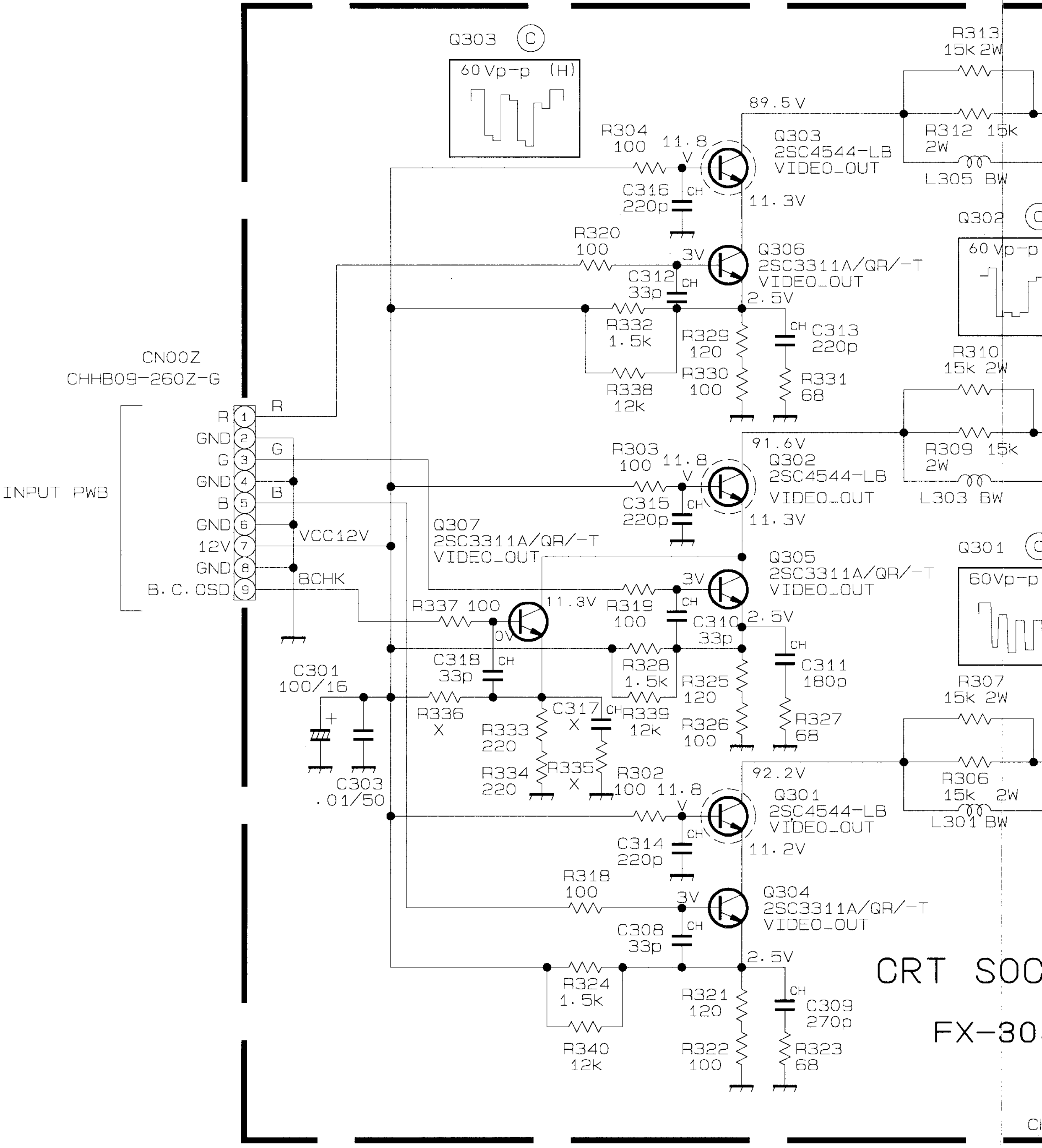
FX-1120A-H2

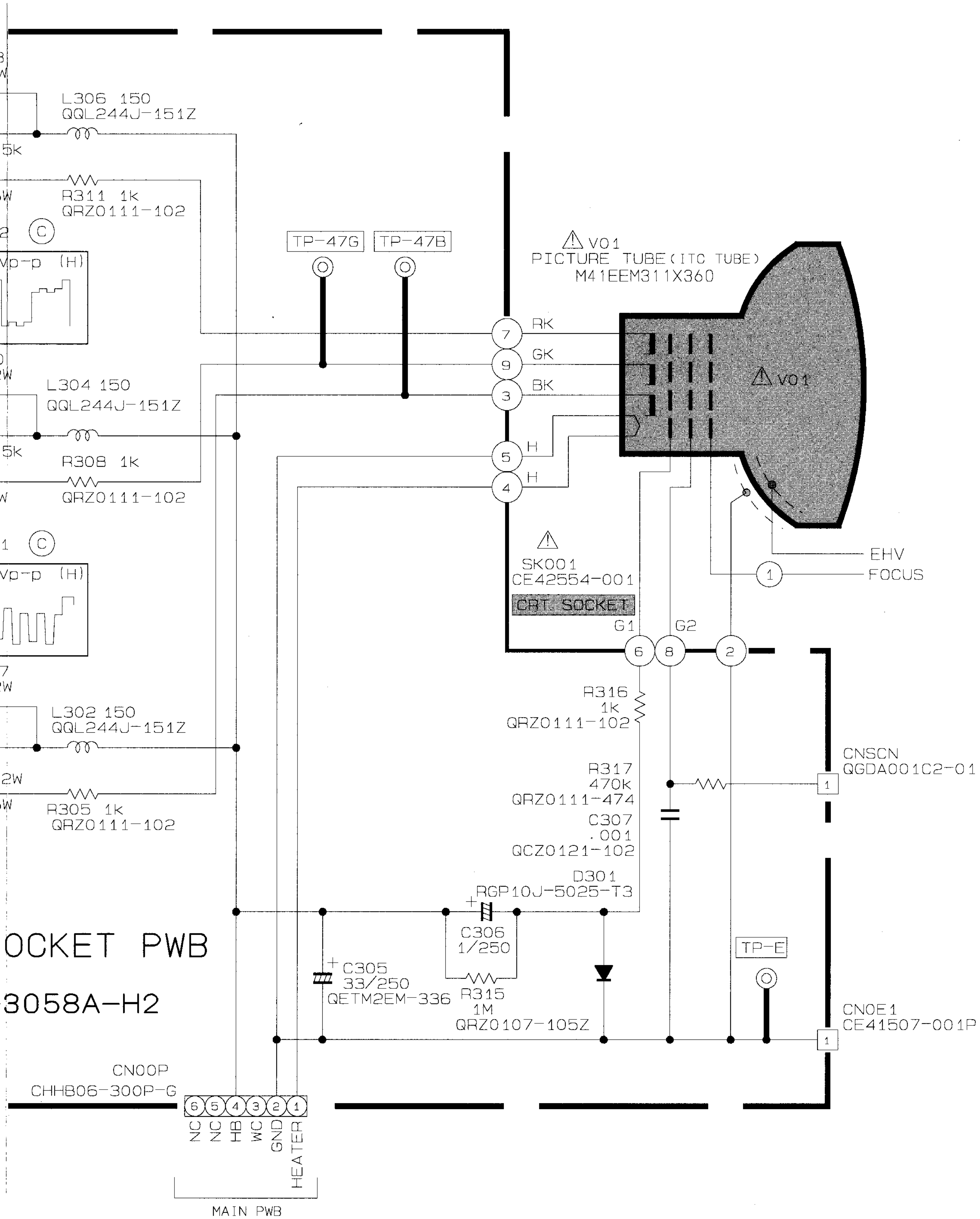
MAIN & FRONT CONTROL PWB CIRCUIT DIAGRAM




FRONT CONTROL PWB
FX-4063A-H2
[GRN]
D802 GL2EG5
UNDER SCAN
UP
DOWN
MENU
CONT
BRIGHT
CHROMA
PHASE
S801 QSP1A11-C18Z
S806 QSP1A11-C18Z
S807 QSP1A11-C18Z
S808 QSP1A11-C18Z
S809 QSP1A11-C18Z
S810 QSP1A11-C18Z
S811 QSP1A11-C18Z
S812 QSP1A11-C18Z
R801 3.3k 1/2W
R804 5.6k 1/2W
R805 3.3k 1/2W
R806 5.6k 1/2W
R807 3.3k 1/2W
CN013 CHC101N-19S-L
CN013 QGF1216C1-19
NOTE
*1 : 2SC3311A/QR/-T
*2 : 2SA1309A/QR/-T
*3 : 1SS133-T2
*4 : DTC124ESA-T
X : NON MOUNT(OPEN)
BW : BUS WIRE
CP973 ICP-N10-Y
IC601 AN5265 AUDIO OUT
DC_ATT
AUDIO OUT
MUTE
VCC
GND
R602 22 1/2W QRK126J-220X
11.4V
5V 1
0V
3V
2
7V
8V
8V
1
16.9V
D603 *3
C616 4.7/50
C602 1000/25 QEHR1EM -108Z
C605 2.2/50 QEH R1HM -225Z
C601 .01
R601 1k
QEH R1HM -475Z
C612 .01
R613 8.2k
R612 10k
R611 330
C613 220/25
QEHR1EM -227Z
C615 1000/25 QEHR1EM-108Z
C619 2200/25 QEHQ1EM -228
R614 4.7 1/2W QRE121J-4R7Y
R603 5.6k
C611 10/50
R604 8.2k
C603 .12
C614 .047
CN005 CH41169-003Y
S
SP-OUT
SP-OUT
GND
SPEAKER CEBSS08P-01KJ2
11.4V
Q604 *1 MUTE_SW
6.1V
0V
0V
R620 22k
C618 .01
R621 56k
D606 *3
C617 47/25
R619 47
D605 MTZJ11A-T2
0.7V
0V
0V
Q603 *1 MUTE SW
R618 150k
4.9V
5.4V
Q602 *2 MUTE
5.5V
Q601 *1 BUFFER
6.1V
5.5V
R617 1.2k
C604 .01 QCB31HK-103Z
MAIN PWB (2/2)
FX-1120A-H2
12V
GND
AUDIO
GND
GND
MUTE
VOLUME
GND
GND
16V
GND
GND
GND
KEY_IN4
KEY_IN3
KEY_IN2
U.SCAN
INPUT_C
KEY_IN5
Y/C
POWER
KEY_IN1
INPUT_A
INPUT_B

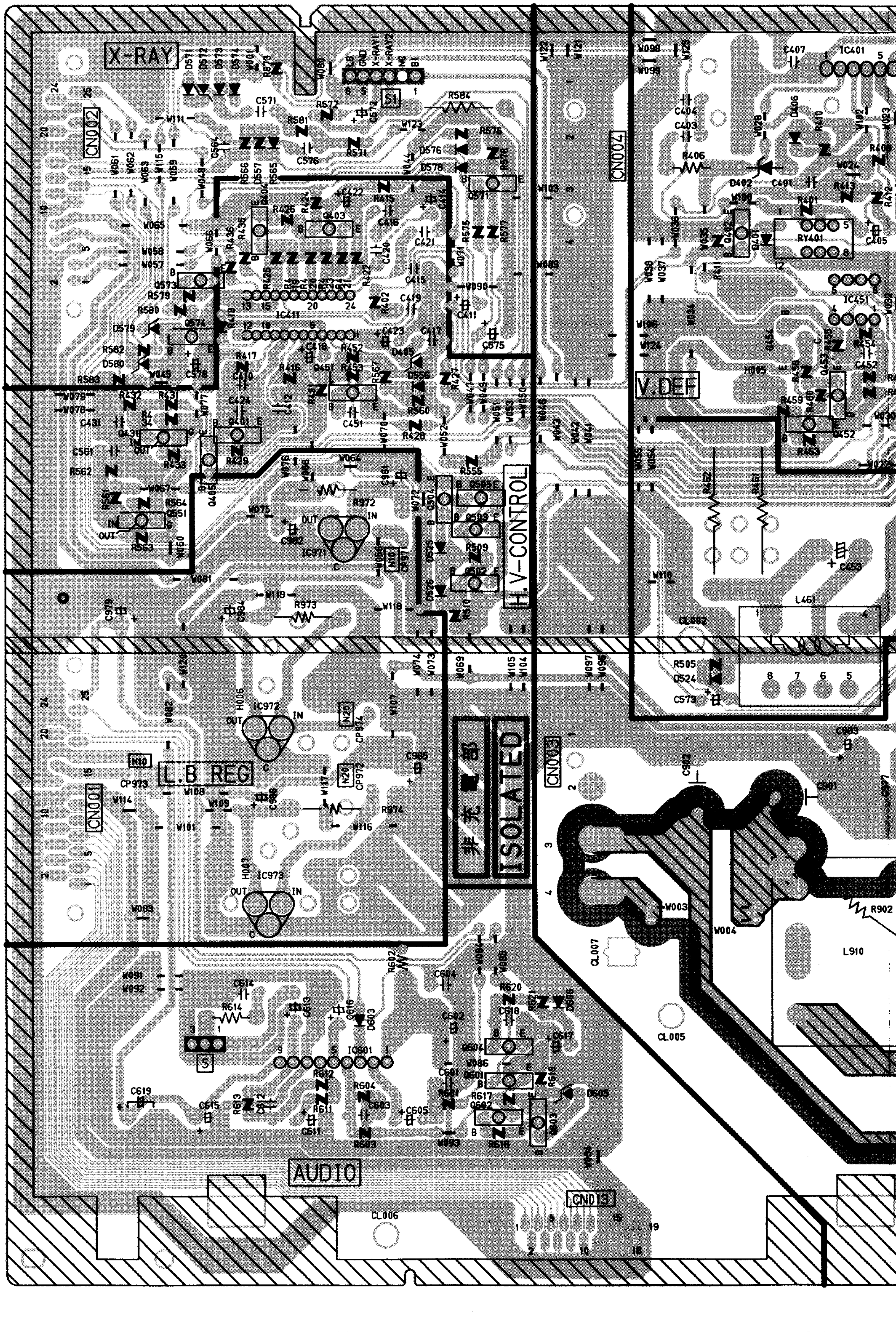
CRT SOCKET PWB CIRCUIT DIAGRAM

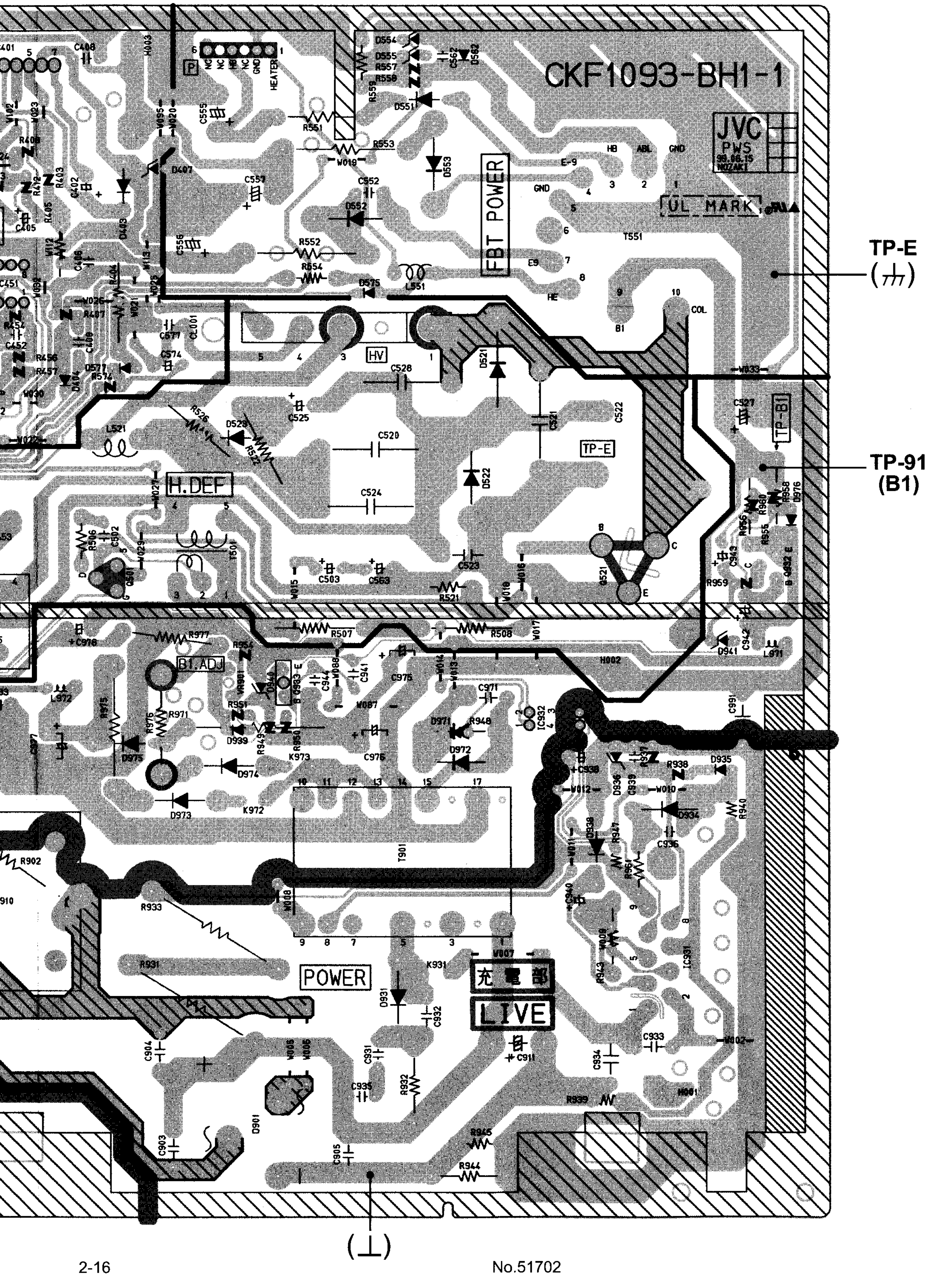



L306 150
QQL244J-151Z
5k
R311 1k
QRZ0111-102
C
Vp-p (H)
TP-47G
TP-47B
V01
PICTURE TUBE(ITC TUBE)
M41EEM311X360
7
RK
9
GK
3
BK
V01
L304 150
QQL244J-151Z
5k
R308 1k
5
H
4
H
QRZ0111-102
C
Vp-p (H)
SK001
CE42554-001
CRT SOCKET
EHV
1
FOCUS
G1
G2
6
8
2
R316
1k
QRZ0111-102
L302 150
QQL244J-151Z
CNSCN
QGDA001C2-01
1
2W
R317
470k
QRZ0111-474
R305 1k
QRZ0111-102
C307
.001
QCZ0121-102
D301
RGP10J-5025-T3
OCKET PWB
C306
1/250
TP-E
C305
33/250
QETM2EM-336
3058A-H2
R315
1M
QRZ0107-105Z
CNOE1
CE41507-001P
1
CN00P
CHHB06-300P-G
6
5
4
3
2
1
NC
NC
HB
WC
GND
HEATER
MAIN PWB

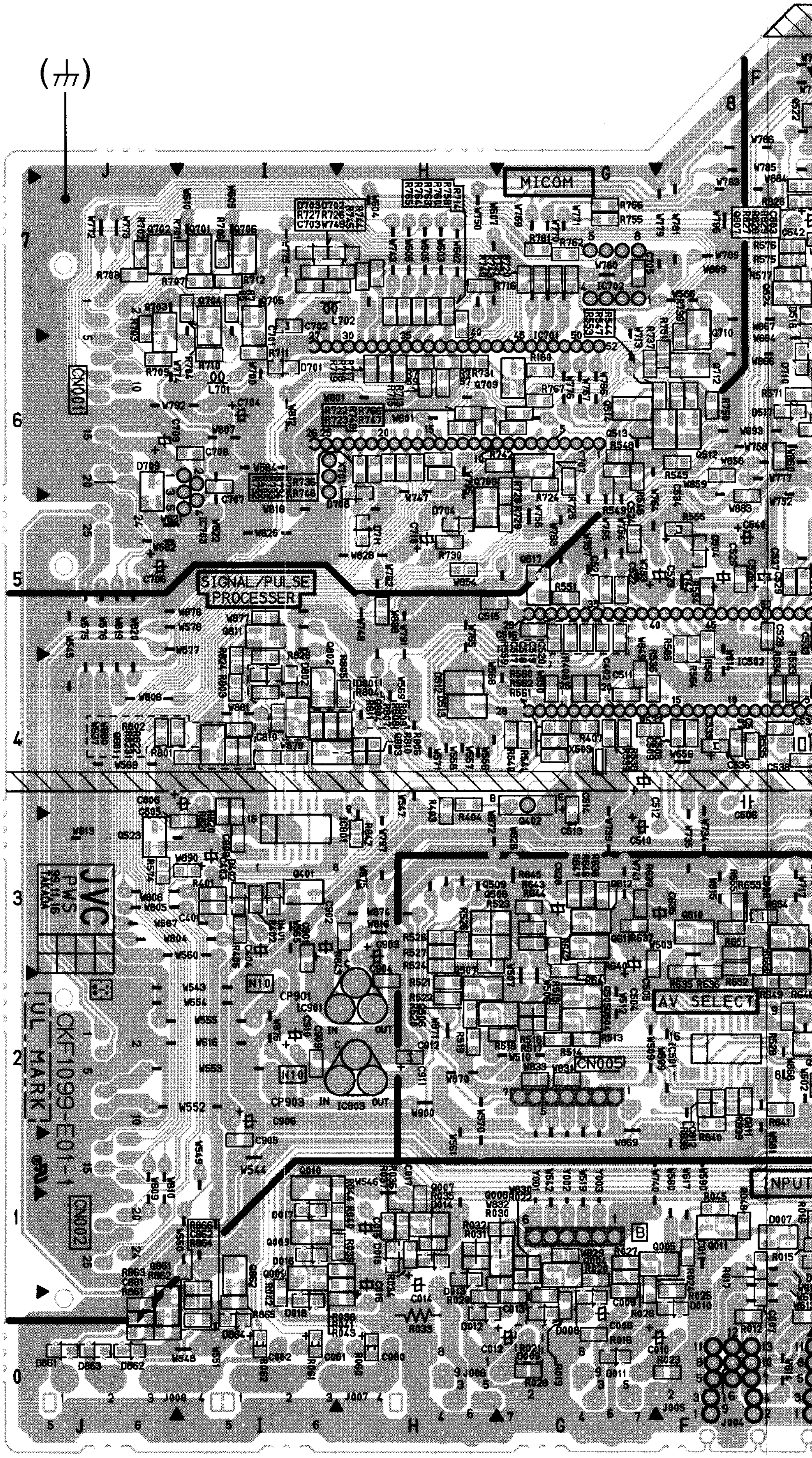
PATTERN DIAGRAMS *MAIN PWB PATTERN*

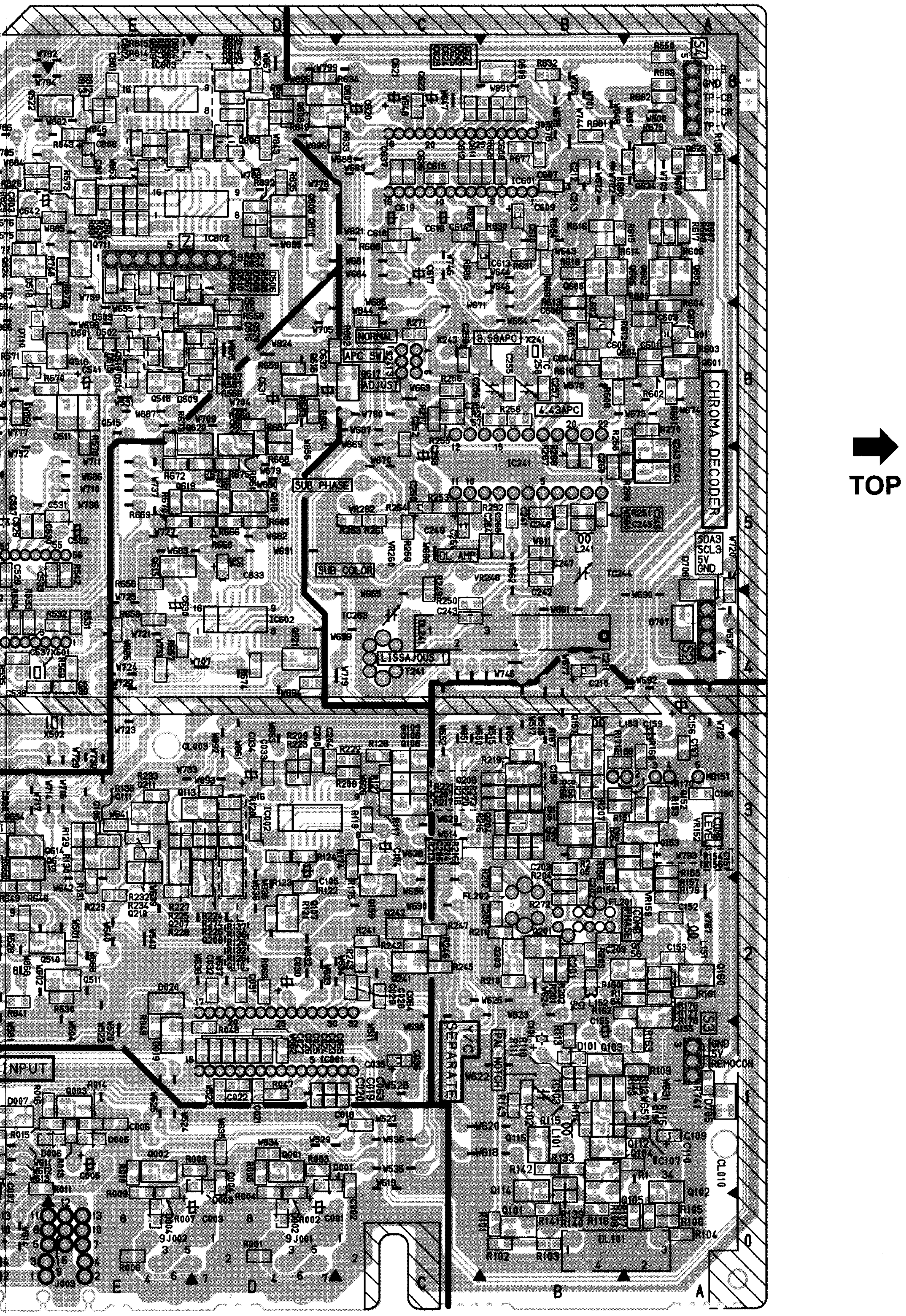
FRONT



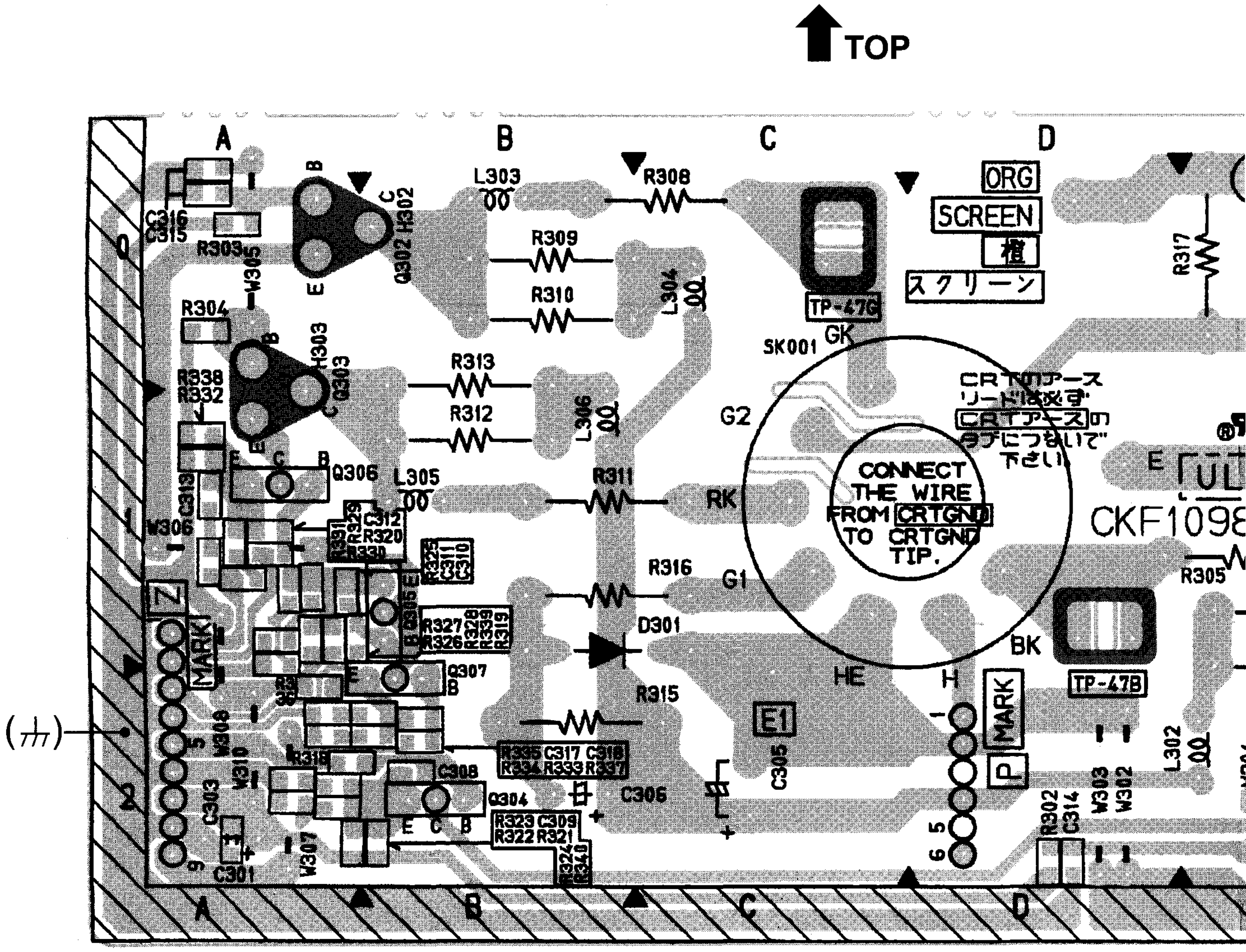

CKF1093-BH1-1
JVC
PWS
UL MARK
FBT POWER
HV
H.DEF
TP-E
TP-B1
B1.ADJ
POWER
充電部
LIVE
T551
T501
T901
IC931
IC932
Q521
Q501
HEATER
GND
HB
ABL
COL
TP-E
(⏊⏊⏊)
TP-91
(B1)
(⊥)

INPUT PWB PATTERN

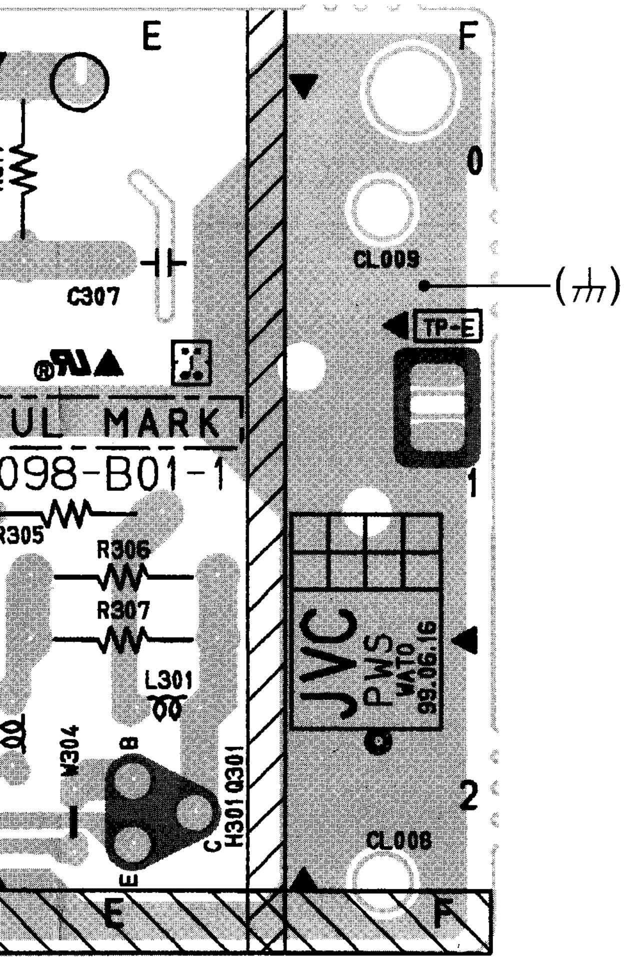


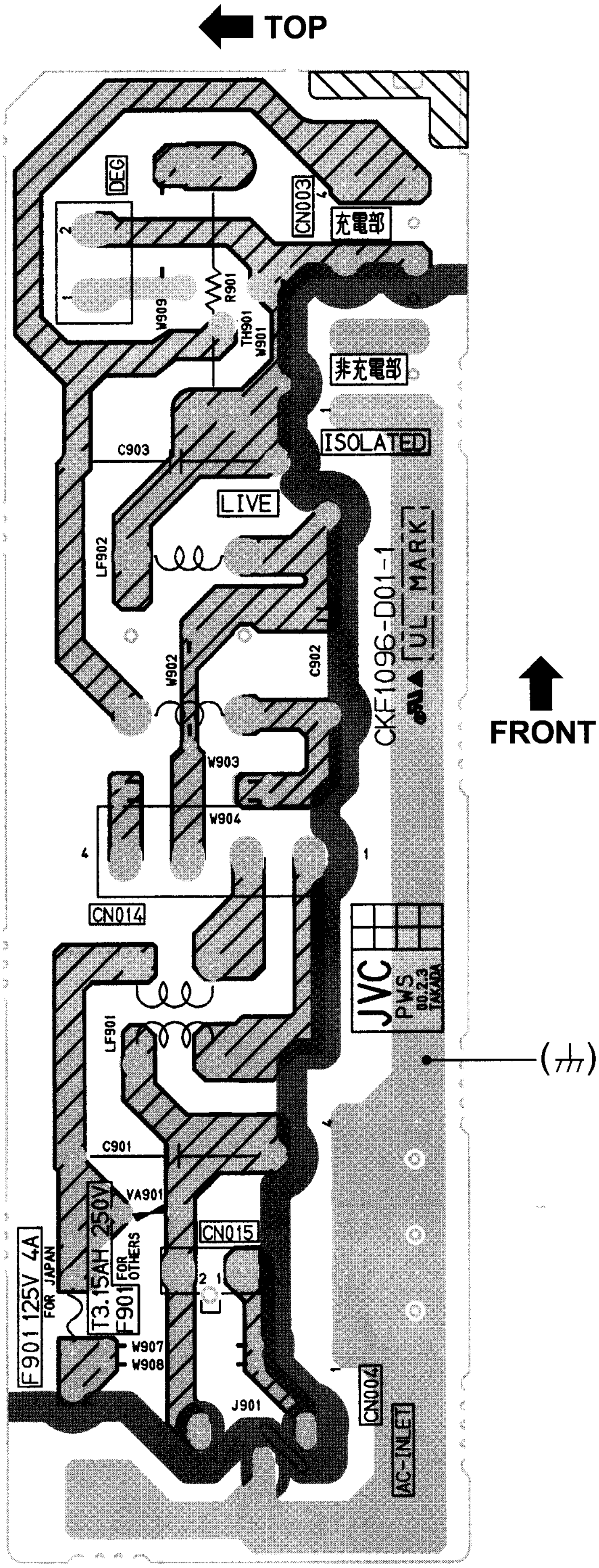

A
B
C
D
E
TP-B
GND
TP-CB
TP-CR
TP-Y
CHROMA DECODER
NORMAL
APC SW
ADJUST
3.58APC
4.43APC
SUB PHASE
SUB COLOR
DL AMP
LISSAJOUS
SDA3
SCL3
5V
GND
CORE LEVEL
CORE PHASE
Y/C SEPARATE
PAL NOTCH
INPUT
GND
5V
REMOCON
IC241
IC601
IC602
IC603
IC802
IC001
IC002
DL241
DL101
T241
X502
J001
J002
J003
CL003
CL010
TOP

CRT SOCKET PWB PATTERN

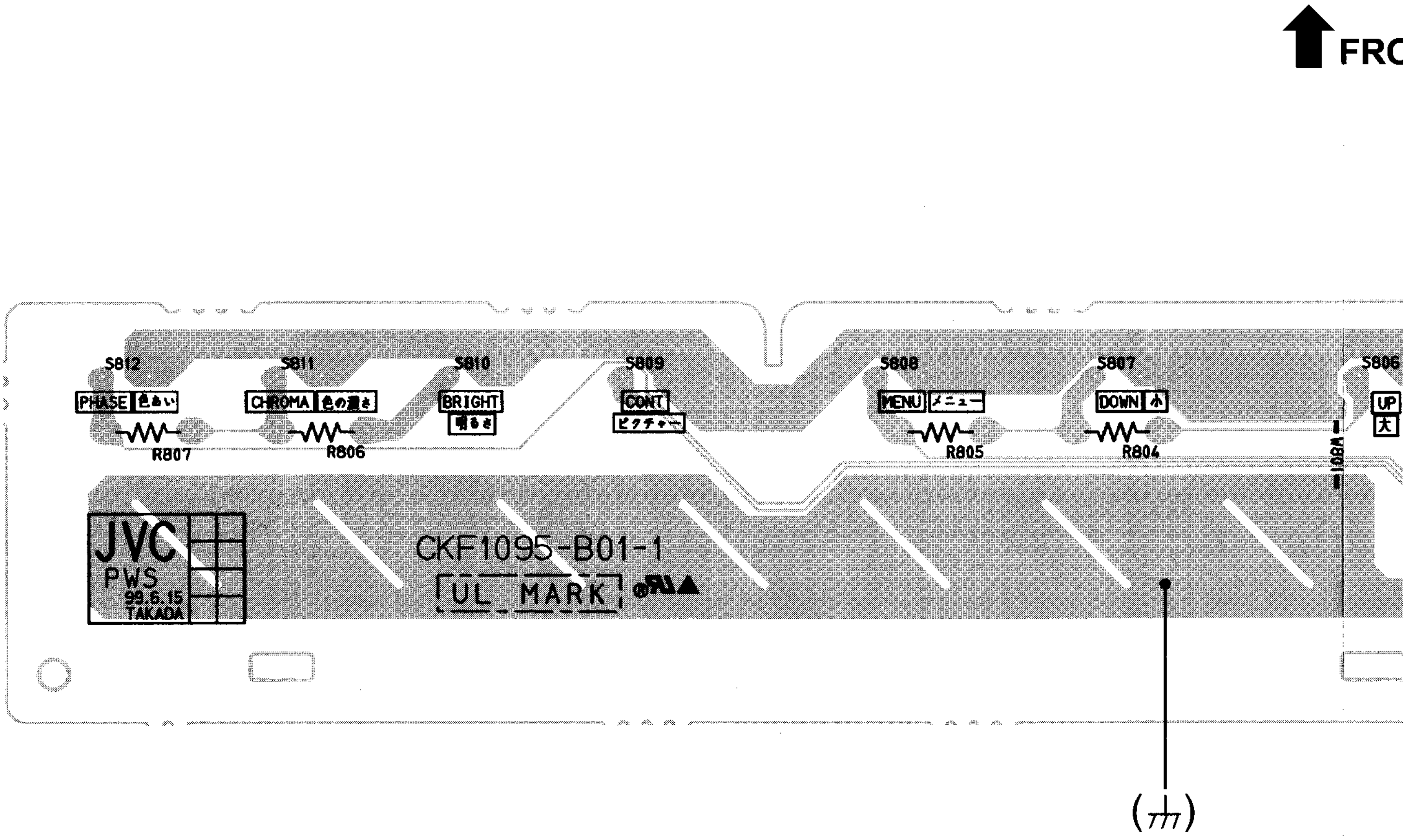


LINE FILTER PWB PATTERN

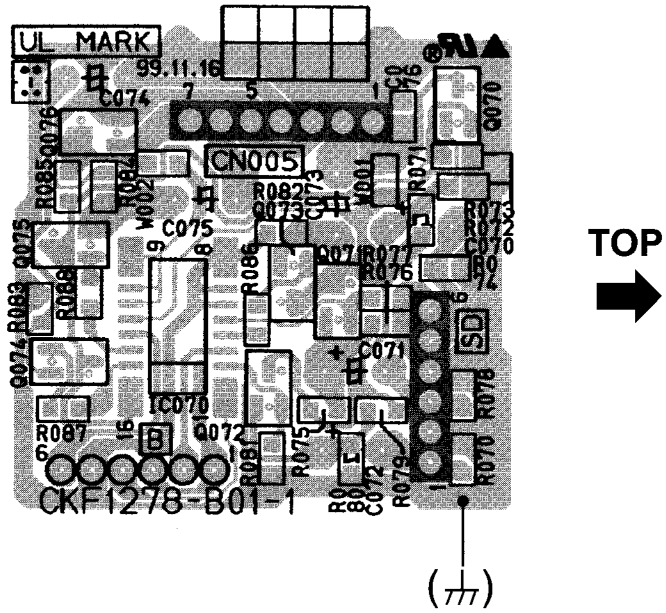




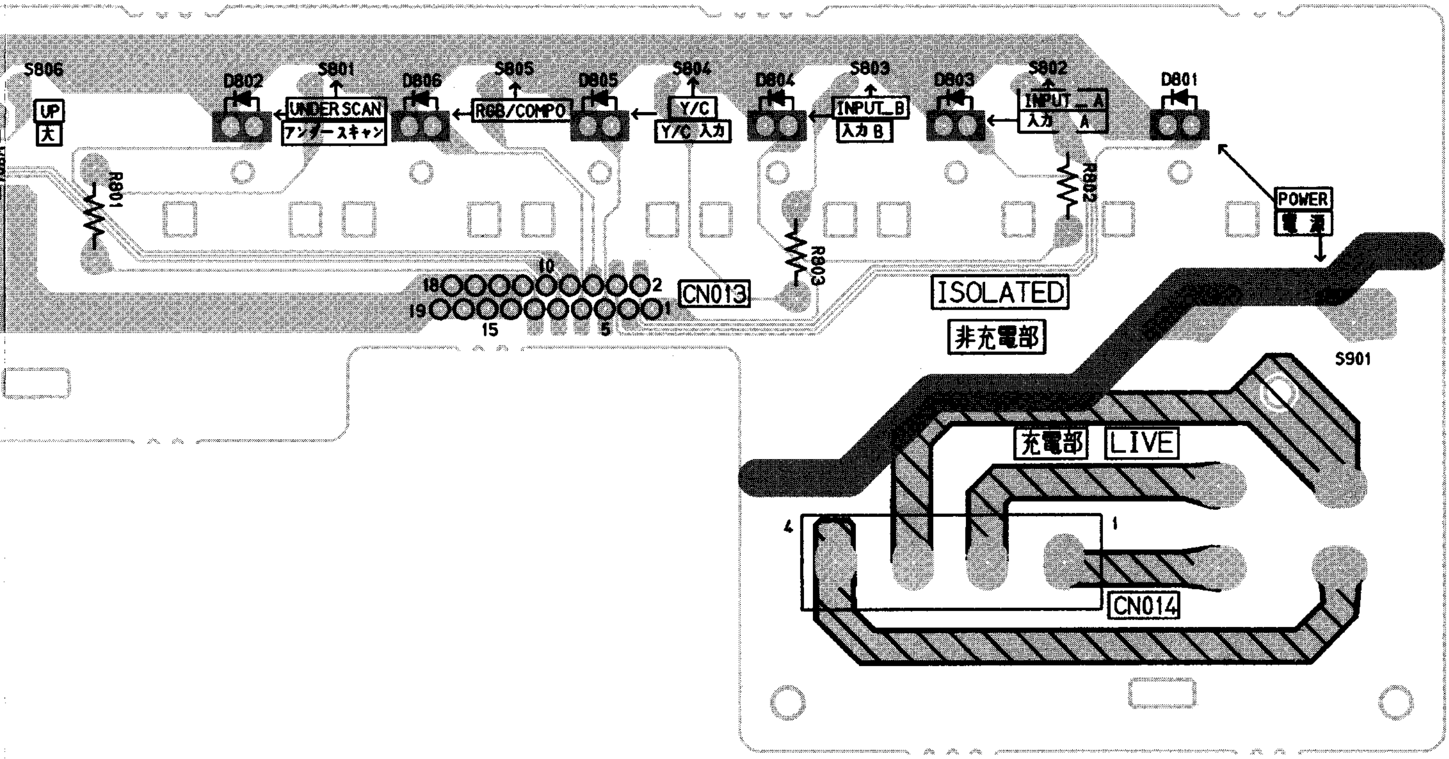
FRONT CONTROL PWB PATTERN



COMPO. SW MODULE PWB PATTERN



FRONT


S806
UP
大
D802
S801
UNDER SCAN
アンダースキャン
D806
S805
RGB/COMPO
D805
S804
Y/C
Y/C 入力
D804
S803
INPUT_B
入力 B
D803
S802
INPUT_A
入力 A
D801
POWER
電源
R801
R802
R803
18
10
2
19
15
5
1
CN013
ISOLATED
非充電部
S901
充電部
LIVE
4
1
CN014

PARTS LIST

CAUTION

- The parts identified by the ⚠ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines —— in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
HV R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

CONTENTS

- **USING PW BOARD** ···· 40
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  - FRONT CONTROL PW BOARD ASS'Y ···· 47
  - INPUT PW BOARD ASS'Y ···· 47
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  - COMPO. SW MODULE PW BOARD ASS'Y ···· 52
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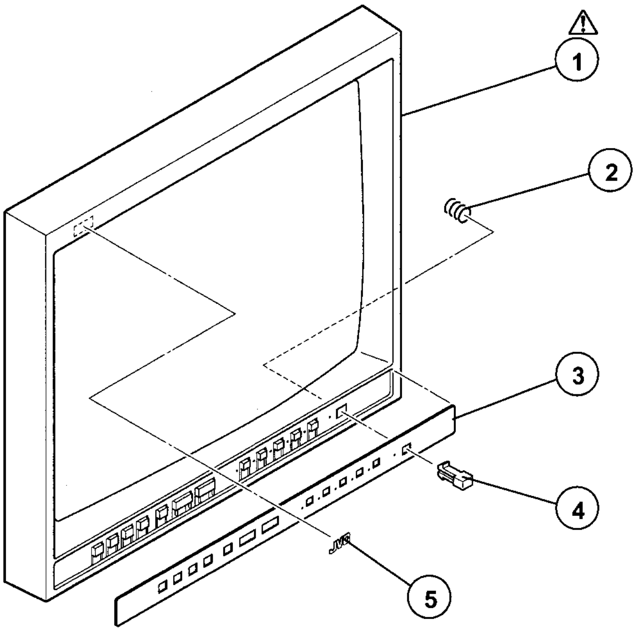
USING PW BOARD

PWB Name	PWB No.
MAIN PWB	FX-1120A-H2
CRT SOCKET PWB	FX-3058A-H2
FRONT CONTROL PWB	FX-4063A-H2
INPUT PWB	FX-6068A-H2
LINE FILTER PWB	FX-9068A-H2
COMPO. SW MODULE PWB	FX-M014A-H2

EXPLODED VIEW PARTS LIST (I)

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	1	LC10403-003A-H	FRONT CABINET		
	2	CM46757-001	SPRING		
	3	LC20302-009A	CONTROL SHEET		
	4	CM46756-A01	POWER KNOB		
	5	CM48149-A01	JVC MARK		

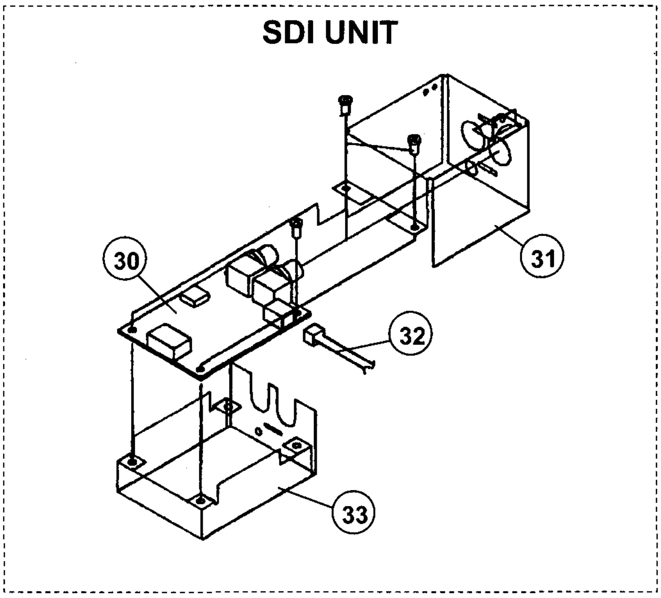
EXPLODED VIEW (I)

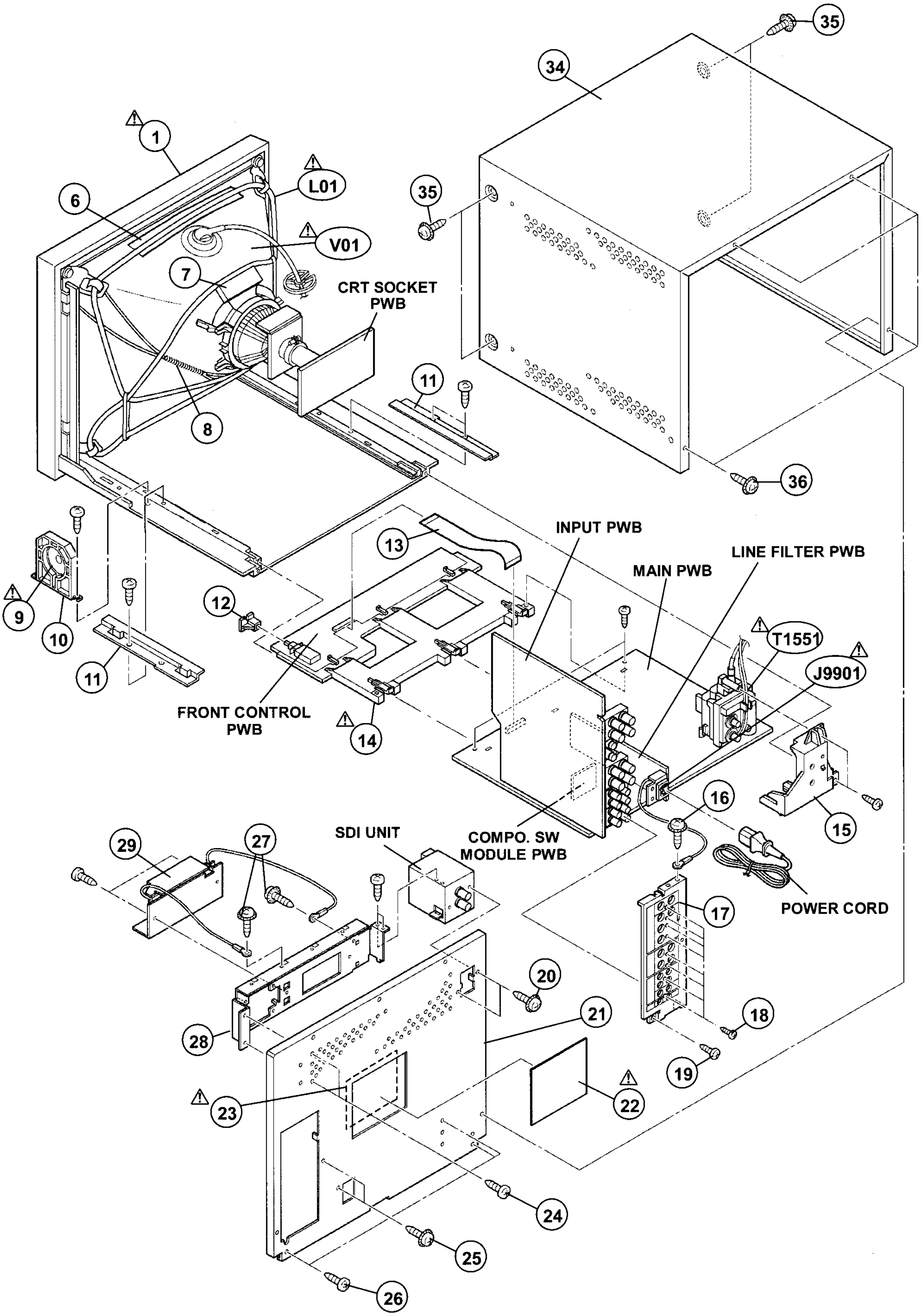


EXPLODED VIEW PARTS LIST (Ⅱ)

⚠	Ref.No.	Part No.	Part Name	Description	Local
⚠	L01	QQW0005-001	DEGAUSSING COIL		
⚠	V01	M41EEM311X360	ITC TUBE(C)	(Inc.DY,PC)	
⚠	T1551	QQH0052-001	H.V.TRANSF.	(Wihtin MAIN PWB)	
⚠	J9901	QMCB006-C01	AC INLET	(Wihtin LINE FILTER PWB)	
	6	CM48296-001	PROTECTOR		
	7	CM42321-A08	CUSHION		
	8	CHGB0015-0G	BRAIDED ASSY		
⚠	9	CEBSS08P-01KJ2	SPEAKER		
	10	CM23137-B01-H	SPEAKER HOLDER		
	11	CM36537-002-H	GUIDE RAIL	(×2)	
	12	CM48241-001-H	KNOB CAP		
	13	CHFB119-14BD	FFC WIRE		
⚠	14	CM12883-D01-H	CONNECT BASE		
	15	CM23099-C01-VH	HVT HOLDER		
	16	CM44287-00B	ASSY SCREW		
	17	LC20303-003A-H	TERMINAL BKT		
	18	QYSBSB3010M	TAPPING SCREW	(×8)	
	19	QYSBSF4012Z	TAPPING SCREW		
	20	CM44287-00C	ASSY SCREW	(×2)	
	21	LC10271-008A-H	REAR PANEL		
⚠	22	LC20406-008A-0L	ROLL R LABEL		
⚠	23	LC30475-003A-H	WARNING LABEL		
	24	QYSBSB3010M	ASSY SCREW	(×2)	
	25	CM44287-00C	ASSY SCREW	(×2)	
	26	QYSBSF4012Z	TAPPING SCREW	(×3)	
	27	CM44287-00B	ASSY SCREW	(×2)	
	28	LC20646-001A-H	FRAME		
	29	QAL0231-002	POWER UNIT ASS'Y		
	30	QAU0178-001	SDI UNIT		
	31	LC20645-001A-H	SDI SHIELD		
	32	WJJ0134-001B	E-SI C WIRE C-C		
	33	LC31266-001A-H	SDI BRACKET		
	34	LC10270-008A-H	TOP COVER	(SERVICE)	
	35	CM44287-00C	ASSY SCREW	(×4)	
	36	CM44287-00C	ASSY SCREW	(×4)	

EXPLODED VIEW (Ⅱ)




L01
V01
CRT SOCKET PWB
FRONT CONTROL PWB
INPUT PWB
MAIN PWB
LINE FILTER PWB
T1551
J9901
COMPO. SW MODULE PWB
SDI UNIT
POWER CORD

PRINTED WIRING BOARD PARTS LIST

MAIN PW BOARD ASS'Y (FX-1120A-H2)

VARIABLE RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	VR1901	QVP0053-102Z	V R(B1 ADJ.)	10Ω	

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R1401	QRA14CF-1200Y	MF R	120kΩ 1/4W	F
	R1402	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1403	QRE141J-122Y	C R	1.2kΩ 1/4W	J
	R1404	QRX029J-1R2	MF R	1.2Ω 2W	J
	R1405	QRG01GJ-101	OM R	100Ω 1W	J
	R1406	QRE121J-1R5Y	C R	1.5Ω 1/2W	J
	R1407	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1408	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1410	QRE141J-333Y	C R	33kΩ 1/4W	J
	R1411	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1412	QRA14CF-2000Y	MF R	0.2kΩ 1/4W	F
	R1413	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1414	QRE141J-681Y	C R	680Ω 1/4W	J
	R1415	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1416	QRE141J-681Y	C R	680Ω 1/4W	J
	R1417	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1418	MA4022/L/-T2	ZENER DIODE		
	R1419	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1420	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1421	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1422	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1423	QRE141J-821Y	C R	820Ω 1/4W	J
	R1424	QRE141J-221Y	C R	220Ω 1/4W	J
	R1425	QRE141J-151Y	C R	150Ω 1/4W	J
	R1426-27	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1428	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1429	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1431	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1432	QRE141J-682Y	C R	6.8kΩ 1/4W	J
	R1433-34	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1435-36	QRE141J-101Y	C R	100Ω 1/4W	J
	R1451	QRE141J-392Y	C R	3.9kΩ 1/4W	J
	R1453	QRE141J-152Y	C R	1.5kΩ 1/4W	J
	R1454-55	QRE141J-472Y	C R	4.7kΩ 1/4W	J
	R1456	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1457	QRE141J-332Y	C R	3.3kΩ 1/4W	J
	R1458-59	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1460	QRE141J-681Y	C R	680Ω 1/4W	J
	R1461	QRG039J-150	OM R	15 Ω 3W	J
	R1462	QRG039J-180	OM R	18Ω 3W	J
	R1463	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1505	QRE141J-123Y	C R	12kΩ 1/4W	J
	R1506	QRE121J-152Y	C R	1.5kΩ 1/2W	J
	R1507-08	QRG029J-221	OM R	220 Ω 2W	J
	R1509-10	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1521	QRE121J-181Y	C R	180Ω 1/2W	J
	R1522	QRG029J-103	OM R	10kΩ 2W	J
	R1526	QRG029J-102	OM R	1kΩ 2W	J
⚠	R1551	QRZ9011-1R0	F R	1Ω 1/2W	J
⚠	R1552	QRZ9024-R82	F R	0.82Ω 2W	K
⚠	R1553	QRZ9024-R82	F R	0.82Ω 2W	K
⚠	R1554	QRZ9017-4R7	F R	4.7Ω 1/4W	J
	R1555	QRE141J-824Y	C R	820kΩ 1/4W	J
	R1557-58	QRE141J-273Y	C R	27kΩ 1/4W	J
	R1559	QRE121J-472Y	C R	4.7kΩ 1/2W	J
	R1560	QRE141J-105Y	C R	1MΩ 1/4W	J
	R1561	QRE141J-473Y	C R	47kΩ 1/4W	J
	R1562	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1563-64	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1565	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1566	QRE141J-222Y	C R	2.2kΩ 1/4W	J
	R1567	QRE141J-105Y	C R	1MΩ 1/4W	J
	R1571	QRE141J-561Y	C R	560Ω 1/4W	J
⚠	R1572	QRA14CF-1802Y	MF R	18kΩ 1/4W	F
⚠	R1573	QRA14CF-4871Y	MF R	4.87kΩ 1/4W	F
	R1574-75	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1576	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1577	QRE141J-392Y	C R	3.9kΩ 1/4W	J
	R1579-80	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1581	QRE141J-332Y	C R	3.3kΩ 1/4W	J
	R1582	QRE141J-821Y	C R	820Ω 1/4W	J
	R1583	QRE141J-103Y	C R	10kΩ 1/4W	J
⚠	R1584	QRZ9011-4R7	F R	4.7Ω 1/2W	J
	R1601	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1602	QRK126J-220X	C R	22Ω 1/2W	J
	R1603	QRE141J-562Y	C R	5.6kΩ 1/4W	J
	R1604	QRE141J-822Y	C R	8.2kΩ 1/4W	J
	R1611	QRE141J-331Y	C R	330Ω 1/4W	J
	R1612	QRE141J-103Y	C R	10kΩ 1/4W	J
	R1613	QRE141J-822Y	C R	8.2kΩ 1/4W	J
	R1614	QRE121J-4R7Y	C R	4.7Ω 1/2W	J
	R1617	QRE141J-122Y	C R	1.2kΩ 1/4W	J
	R1618	QRE141J-154Y	C R	150kΩ 1/4W	J
	R1619	QRE141J-470Y	C R	47Ω 1/4W	J
	R1620	QRE141J-223Y	C R	22kΩ 1/4W	J
	R1621	QRE141J-563Y	C R	56kΩ 1/4W	J
⚠	R1902	QRF154K-4R7	UNF R	4.7Ω 15W	K
	R1931	QRG039J-333	OM R	33kΩ 3W	J
	R1932	QRL029J-473	OM R	47kΩ 2W	J
	R1933	QRG039J-333	OM R	33kΩ 3W	J
	R1937	QRE141J-102Y	C R	1kΩ 1/4W	J
	R1938	QRE141J-182Y	C R	1.8kΩ 1/4W	J
⚠	R1939	QRJ146J-101X	C R	100Ω 1/4W	J
⚠	R1940	QRJ146J-392X	C R	3.9kΩ 1/4W	J
	R1943	QRG01GJ-150	OM R	15Ω 1W	J
	R1944	QRT029J-2R7	MF R	2.7Ω 2W	J
	R1945	QRM059J-R33	MP R	0.33Ω 5W	J
⚠	R1947	QRJ146J-102X	C R	1kΩ 1/4W	J
	R1948	QRE141J-183Y	C R	18kΩ 1/4W	J
	R1949	QRE141J-154Y	C R	150kΩ 1/4W	J
⚠	R1950	QRA14CF-1502Y	MF R	15kΩ 1/4W	F
⚠	R1951	QRA14CF-1502Y	MF R	15kΩ 1/4W	F
⚠	R1954	QRA14CF-4701Y	MF R	4.7kΩ 1/4W	F
⚠	R1955	QRT029J-R82	MF R	0.82Ω 2W	J
	R1956	QRT029J-1R0	MF R	1.0Ω 2W	J
	R1958	QRE141J-272Y	C R	2.7kΩ 1/4W	J
	R1959	QRE141J-183Y	C R	18kΩ 1/4W	J
	R1960	QRE141J-562Y	C R	5.6kΩ 1/4W	J
	R1961	QRE121J-1R8Y	C R	1.8Ω 1/2W	J
	R1971	QRG039J-152	OM R	1.5kΩ 3W	J
	R1972	QRL029J-220	OM R	22Ω 2W	J
⚠	R1975	QRZ9024-R56	F R	0.56Ω 2W	K
⚠	R1976	QRZ9021-4R7	F R	4.7 Ω 1W	J
⚠	R1977	QRZ9021-3R9	F R	3.9Ω 1W	J

CAPACITOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	C1401	QFLC1HJ-102Z	M CAP.	1000pF 50V	J
	C1402	QETN1VM-337Z	E CAP.	330μF 35V	M
	C1403-04	QFV71HJ-824Z	MF CAP.	0.82μF 50V	J
	C1405	QETN1CM-107Z	E CAP.	100μF 16V	M
	C1406	QFLC2AK-273Z	M CAP.	0.027μF 100V	K
	C1409	QFLC2AK-393Z	M CAP.	0.039μF 100V	K
	C1410	QFV71HJ-104Z	MF CAP.	0.1μF 50V	J
	C1411	QETN1HM-225Z	E CAP.	2.2μF 50V	M
	C1412	QCS31HJ-101Z	C CAP.	100pF 50V	J
	C1414	QBTC1CK-225Z	TAN.CAP.	2.2μF 16V	K
	C1415	QFV71HJ-105Z	MF CAP.	1μF 50V	J

CAPACITOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	C1416	QFLC1HJ-223Z	M CAP.	0.022μF 50V J	
	C1417	QFLC1HJ-102Z	M CAP.	1000pF 50V J	
	C1418	QETN1CM-476Z	E CAP.	47μF 16V M	
	C1419	QFLC1HJ-102Z	M CAP.	1000pF 50V J	
	C1420-21	QCS31HJ-101Z	C CAP.	100pF 50V J	
	C1422-23	QETN1CM-476Z	E CAP.	47μF 16V M	
	C1424	QCS31HJ-101Z	C CAP.	100pF 50V J	
	C1431	QCB31HK-332Z	C CAP.	3300pF 50V K	
	C1451	QFV71HJ-104Z	MF CAP.	0.1μF 50V J	
	C1452	QCS31HJ-101Z	C CAP.	100pF 50V J	
	C1453	QEZ0470-475	E CAP.	4.7μF 50V M	
	C1502	QCB32HK-681Z	C CAP.	680pF 500V K	
	C1503	QTMN1HM-225Z	E CAP.	2.2μF 50V M	
	C1520	QFZ0119-105	MPP CAP.	1μF 200V ±3%	
	C1521	QFZ0117-1001	MPP CAP.	1000pF1.4kVH±2.5%	
	C1522	QFZ0117-1202	MPP CAP.	0.012μF1.4kVH±2.5%	
	C1523	QFP32GJ-273	PP CAP.	0.027μF 400V J	
	C1524	QFZ0119-155	MPP CAP.	1.5μF 200V ±3%	
	C1525	QETN2CM-475Z	E CAP.	4.7μF 160V M	
	C1527	QEHQ2AM-477	E CAP.	470μF 100V M	
	C1528	QFZ0117-6001	MPP CAP.	6000pF1.4kVH±2.5%	
	C1555	QEHQ2CM-107	E CAP.	100μF 160V M	
	C1556-57	QETM1CM-478	E CAP.	4700μF 16V M	
	C1561	QCS31HJ-271Z	C CAP.	270pF 50V J	
	C1562	QFLC1HJ-223Z	M CAP.	0.022μF 50V J	
	C1563	QTMN1HM-225Z	E CAP.	2.2μF 50V M	
	C1564	QFLC1HJ-223Z	M CAP.	0.022μF 50V J	
	C1571	QCB31HK-682Z	C CAP.	6800pF 50V K	
	C1572	QETN2AM-106Z	E CAP.	10μF 100V M	
	C1573	QETN1HM-105Z	E CAP.	1μF 50V M	
	C1574	QENC1EM-107Z	BP E CAP.	100μF 25V M	
	C1575	QEHR1EM-107Z	E CAP.	100μF 25V M	
	C1576-77	QCS31HJ-221Z	C CAP.	220pF 50V J	
	C1578	QETN1AM-227Z	E CAP.	220μF 10V M	
	C1601	QFLC1HJ-103Z	M CAP.	0.01μF 50V J	
	C1602	QEHR1EM-108Z	E CAP.	1000μF 25V M	
	C1603	QFV71HJ-124Z	MF CAP.	0.12μF 50V J	
	C1604	QCB31HK-103Z	C CAP.	0.01μF 50V K	
	C1605	QEHR1HM-225Z	E CAP.	2.2μF 50V M	
	C1611	QETN1HM-106Z	E CAP.	10μF 50V M	
	C1612	QFLC1HJ-103Z	M CAP.	0.01μF 50V J	
	C1613	QEHR1EM-227Z	E CAP.	220μF 25V M	
	C1614	QFLC1HJ-473Z	M CAP.	0.047μF 50V J	
	C1615	QEHR1EM-108Z	E CAP.	1000μF 25V M	
	C1616	QEHR1HM-475Z	E CAP.	4.7μF 50V M	
	C1617	QETN1EM-476Z	E CAP.	47μF 25V M	
	C1618	QFLC1HJ-103Z	M CAP.	0.01μF 50V J	
	C1619	QEHQ1EM-228	E CAP.	2200μF 25V M	
⚠	C1901	QCZ9079-471	C CAP.	470pFAC250V K	
⚠	C1902	QCZ9079-471	C CAP.	470pFAC250V K	
⚠	C1903	QCZ9078-472	C CAP.	4700pFAC250V M	
⚠	C1904	QCZ9078-472	C CAP.	4700pFAC250V M	
⚠	C1905	QCZ9078-472	C CAP.	4700pFAC250V M	
	C1911	QEZ0371-397	E CAP.	390μF 400V M	
	C1931	QCB32HK-472Z	C CAP.	4700pF 500V K	
	C1932	QCZ0122-561	C CAP.	560pF 2kV K	
	C1933	QCZ0325-151	C CAP.	150pF 2kV K	
	C1934	QCZ0325-102	C CAP.	1000pF 2kV K	
	C1935	QCB32HK-472Z	C CAP.	4700pF 500V K	
	C1936	QCB32HK-471Z	C CAP.	470pF 500V K	
	C1938	QETN1EM-108Z	E CAP.	1000μF 25V M	
	C1939	QCB31HK-152Z	C CAP.	1500pF 50V K	
	C1940	QETN1CM-227Z	E CAP.	220μF 16V M	
	C1941	QCS31HJ-391Z	C CAP.	390pF 50V J	
	C1942	QETN1AM-107Z	E CAP.	100μF 10V M	
	C1943	QETN1HM-105Z	E CAP.	1μF 50V M	
	C1944	QFN32AK-102Z	M CAP.	1000pF 100V K	
	C1971	QCZ9078-152	C CAP.	1500pFAC250V M	
	C1975-76	QEHQ2AM-227	E CAP.	220μF 100V M	
	C1977	QETM1EM-228	E CAP.	2200μF 25V M	
	C1978	QETN1EM-108Z	E CAP.	1000μF 25V M	

⚠	Symbol No.	Part No.	Part Name	Description	Local
	C1979	QETN1EM-477Z	E CAP.	470μF 25V M	
	C1981	QETN1HM-225Z	E CAP.	2.2μF 50V M	
	C1982	QETN1CM-107Z	E CAP.	100μF 16V M	
	C1983	QETN1EM-108Z	E CAP.	1000μF 25V M	
	C1984	QETN1CM-477Z	E CAP.	470μF 16V M	
	C1985	QETN1EM-477Z	E CAP.	470μF 25V M	
	C1986	QETN1CM-477Z	E CAP.	470μF 16V M	
⚠	C1991	QCZ9079-222	C CAP.	2200pFAC250V M	

TRANSFORMER

⚠	Symbol No.	Part No.	Part Name	Description	Local
	T1501	QQR1032-001	H.DRIVE TRANSF.		
⚠	T1551	QQH0052-001	H.V.TRANSF.		
⚠	T1901	QQS0037-001	SWITCH.TRANSF.		

COIL

⚠	Symbol No.	Part No.	Part Name	Description	Local
	L1461	QQR0993-001	CHOKE COIL		
	L1521	CE40970-00A	LINEARITY COIL		
	L1551	QQLZ018-480	HEATER CHOKE		
	L1971-72	QQL26AK-560Z	CHOKE COIL		

DIODE

⚠	Symbol No.	Part No.	Part Name	Description	Local
	D1401	1SS133-T2	SI.DIODE		
	D1402	RD62E/B/-T2	ZENER DIODE		
	D1403	1SR35-400A-T2	SI.DIODE		
	D1404	1SS133-T2	SI.DIODE		
	D1405	MTZJ6.8C-T2	ZENER DIODE		
	D1406	1SS133-T2	SI.DIODE		
	D1407	MTZJ18A-T2	ZENER DIODE		
	D1521	RG4C-F1	SI.DIODE		
	D1522	RU30-F1	SI.DIODE		
	D1523	BYD33G-T3	SI.DIODE		
	D1524	1SS133-T2	SI.DIODE		
	D1551	RGP10J-5025-T3	SI.DIODE		
	D1552-53	RU30-F1	SI.DIODE		
	D1554-55	MTZJ6.8C-T2	ZENER DIODE		
	D1556-57	1SS133-T2	SI.DIODE		
	D1562	1SS244-T2	SI.DIODE		
	D1571	1SS133-T2	SI.DIODE		
	D1572	MTZJ6.8C-T2	ZENER DIODE		
	D1573-74	1SS133-T2	SI.DIODE		
	D1575	1SS244-T2	SI.DIODE		
	D1576	1SS133-T2	SI.DIODE		
	D1577	1SS244-T2	SI.DIODE		
	D1578	1SS133-T2	SI.DIODE		
⚠	D1579	MA4068N/Z1/-T2	ZENER DIODE		
	D1580	MTZJ4.3A-T2	ZENER DIODE		
	D1603	1SS133-T2	SI.DIODE		
	D1605	MTZJ11A-T2	ZENER DIODE		
	D1606	1SS133-T2	SI.DIODE		
⚠	D1901	D3SBA60	DIODE BRIDGE		
	D1931	RU1C-LFC4	SI.DIODE		
	D1934	RK14-T3	SI.DIODE		
	D1935	1SS133-T2	SI.DIODE		
	D1936	MTZJ12C-T2	ZENER DIODE		
	D1938	EG1Z-T3	SI.DIODE		
	D1939	1SS133-T2	SI.DIODE		
	D1940	MA4068N/Z1/-T2	ZENER DIODE		
	D1941	MTZJ7.5S-T2	ZENER DIODE		
	D1971-72	RU30-F1	SI.DIODE		
	D1973-74	RU3YX-LFC4	SI.DIODE		
	D1975	RGP10J-5025-T3	SI.DIODE		
	D1976	1SS133-T2	SI.DIODE		

TRANSISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	Q1401-05	2SC3311A/QR/-T	SI.TRANSISTOR		
	Q1431	DTC124ESA-T	DIGI.TRANSISTOR		

⚠	Symbol No.	Part No.	Part Name	Description	Local
	TRANSISTOR				
	Q1451-52	2SC3311A/QR/-T	SI.TRANSISTOR		
	Q1453	2SA1309A/QR/-T	SI.TRANSISTOR		
	Q1454	2SD1408/OY/-LB	SI.TRANSISTOR		
	Q1501	BSN304-T	F.E.T.		
	Q1502	2SC1627A/OY/-T	SI.TRANSISTOR		
	Q1503	2SA965/OY/-T	SI.TRANSISTOR		
	Q1504-05	2SC3311A/QR/-T	SI.TRANSISTOR		
⚠	Q1521	2SD2553-LB	SI.TRANSISTOR	H.OUT	
	Q1551	DTC124ESA-T	DIGI.TRANSISTOR		
	Q1571	2SC3311A/QR/-T	SI.TRANSISTOR		
	Q1573	2SA1309A/QR/-T	SI.TRANSISTOR		
⚠	Q1574	2SC2785/JH/-T	SI.TRANSISTOR		
	Q1601	2SC3311A/QR/-T	SI.TRANSISTOR		
	Q1602	2SA1309A/QR/-T	SI.TRANSISTOR		
	Q1603-04	2SC3311A/QR/-T	SI.TRANSISTOR		
	Q1932	2SA949/Y/Z1-T	SI.TRANSISTOR		
	Q1933	2SC2229/Y/-T	SI.TRANSISTOR		
	IC				
	IC1401	LA7841	I.C.(MONO-ANA)		
	IC1411	TA1241AN	I.C.(MONO-ANA)		
	IC1451	NJM4560D	I.C.(MONO-ANA)		
	IC1601	AN5265	I.C.(MONO-ANA)		
⚠	IC1931	STR-S6707	I.C.(HYBRID)		
⚠	IC1932	TLP721F(D4-GR)	I.C.(PH.COUPLER)		
	IC1971	BA17809T	I.C.(MONO-ANA)		
	IC1972-73	LM2940CT-12	I.C.(MONO-ANA)		
	OTHERS				
⚠	CN1003	QGBA001K1-04	B TO B CONNE		
⚠	CN1004	QGBA001K1-04	B TO B CONNE		
	CN1013	QGF1220C2-19	FFC/FPC CONNECTOR		
⚠	CP1971	ICP-N10-Y	I.C.PROTECT		
⚠	CP1972	ICP-N20-Y	I.C.PROTECT		
⚠	CP1973	ICP-N10-Y	I.C.PROTECT		
⚠	CP1974	ICP-N20-Y	I.C.PROTECT		
	K1931	CE42050-001Z	CORE		
	K1972	CE41433-001Z	BEADS CORE		
	K1973	CE42050-001Z	CORE		
⚠	RY1401	QSK0108-001	RELAY		

CRT SOCKET PW BOARD ASS'Y (FX-3058A-H2)

⚠	Symbol No.	Part No.	Part Name	Description	Local
	RESISTOR				
	R3302-04	NRSA02J-101X	MG R	100Ω 1/10W J	
	R3305	QRZ0111-102	C R	1kΩ 1/2W K	
	R3306-07	QRL029J-153	OM R	15kΩ 2W J	
	R3308	QRZ0111-102	C R	1kΩ 1/2W K	
	R3309-10	QRL029J-153	OM R	15kΩ 2W J	
	R3311	QRZ0111-102	C R	1kΩ 1/2W K	
	R3312-13	QRL029J-153	OM R	15kΩ 2W J	
	R3315	QRZ0107-105Z	C R	1MΩ 1/2W K	
	R3316	QRZ0111-102	C R	1kΩ 1/2W K	
	R3317	QRZ0111-474	C R	470kΩ 1/2W K	
	R3318-20	NRSA02J-101X	MG R	100Ω 1/10W J	
	R3321	NRSA02J-121X	MG R	120Ω 1/10W J	
	R3322	NRSA02J-101X	MG R	100Ω 1/10W J	
	R3323	NRSA02J-680X	MG R	68Ω 1/10W J	
	R3324	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
	R3325	NRSA02J-121X	MG R	120Ω 1/10W J	
	R3326	NRSA02J-101X	MG R	100Ω 1/10W J	
	R3327	NRSA02J-680X	MG R	68Ω 1/10W J	
	R3328	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
	R3329	NRSA02J-121X	MG R	120Ω 1/10W J	
	R3330	NRSA02J-101X	MG R	100Ω 1/10W J	
	R3331	NRSA02J-680X	MG R	68Ω 1/10W J	
	R3332	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
	R3333-34	NRSA02J-221X	MG R	220Ω 1/10W J	
	R3337	NRSA02J-101X	MG R	100Ω 1/10W J	
	R3338-40	NRSA02J-123X	MG R	12kΩ 1/10W J	
	CAPACITOR				
	C3301	QETN1CM-107Z	E CAP.	100µF 16V M	
	C3303	NCB21HK-103X	C CAP.	0.01µF 50V K	
	C3305	QETM2EM-336	E CAP.	33µF 250V M	
	C3306	QETN2EM-105Z	E CAP.	1µF 250V M	
	C3307	QCZ0121-102	C CAP.	1000pF 3kV Z	
	C3308	NDC21HJ-330X	C CAP.	33pF 50V J	
	C3309	NDC21HJ-271X	C CAP.	270pF 50V J	
	C3310	NDC21HJ-330X	C CAP.	33pF 50V J	
	C3311	NDC21HJ-181X	C CAP.	180pF 50V J	
	C3312	NDC21HJ-330X	C CAP.	33pF 50V J	
	C3313-16	NDC21HJ-221X	C CAP.	220pF 50V J	
	C3318	NDC21HJ-330X	C CAP.	33pF 50V J	
	COIL				
	L3302	QQL244J-151Z	PEAKING COIL	150µH	
	L3304	QQL244J-151Z	PEAKING COIL	150µH	
	L3306	QQL244J-151Z	PEAKING COIL	150µH	
	DIODE				
	D3301	RGP10J-5025-T3	SI.DIODE		
	TRANSISTOR				
	Q3301-03	2SC4544-LB	SI.TRANSISTOR		
	Q3304-07	2SC3311A/QR/-T	SI.TRANSISTOR		
	OTHERS				
⚠	SK3001	CE42554-001	C.R.T.SOCKET		

FRONT CONTROL PW BOARD ASS'Y (FX-4063A-H2)

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R4801-02	QRE121J-332Y	C R	3.3kΩ 1/2W J	
	R4803-04	QRE121J-562Y	C R	5.6kΩ 1/2W J	
	R4805	QRE121J-332Y	C R	3.3kΩ 1/2W J	
	R4806	QRE121J-562Y	C R	5.6kΩ 1/2W J	
	R4807	QRE121J-332Y	C R	3.3kΩ 1/2W J	

DIODE

⚠	Symbol No.	Part No.	Part Name	Description	Local
	D4801-06	GL2EG6	L.E.D.(GRN)		

OTHERS

⚠	Symbol No.	Part No.	Part Name	Description	Local
		CM46978-A01-H	L.E.D.HOLDER		
	CN4013	CHC101N-19S-L	FFC CONNECTOR		
⚠	CN4014	CH42145-804S	VH POST HEADER		
	S4801	QSP1A11-C18Z	PUSH SWITCH	UNDER SCAN	
	S4802	QSP1A11-C18Z	PUSH SWITCH	INPUT-A	
	S4803	QSP1A11-C18Z	PUSH SWITCH	INPUT-B	
	S4804	QSP1A11-C18Z	PUSH SWITCH	Y/C	
	S4805	QSP1A11-C18Z	PUSH SWITCH	RGB/COMPO.	
	S4806	QSP1A11-C18Z	PUSH SWITCH	UP	
	S4807	QSP1A11-C18Z	PUSH SWITCH	DOWN	
	S4808	QSP1A11-C18Z	PUSH SWITCH	MENU	
	S4809	QSP1A11-C18Z	PUSH SWITCH	CONT	
	S4810	QSP1A11-C18Z	PUSH SWITCH	BRIGHT	
	S4811	QSP1A11-C18Z	PUSH SWITCH	CHROMA	
	S4812	QSP1A11-C18Z	PUSH SWITCH	PHASE	
⚠	S4901	QSP4K21-C01	PUSH SWITCH	POWER	

INPUT PW BOARD ASS'Y (FX-6068A-H2)

VARIABLE RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	VR6152	QVP0053-202Z	V R(COMB LEVEL)	2kΩ	
	VR6159	QVP0053-202Z	V R(COMB PHASE)	2kΩ	
	VR6248	QVP0053-202Z	V R(DL AMP)	2kΩ	
	VR6260	QVP0053-203Z	V R(SUB COLOR)	20kΩ	
	VR6262	QVP0053-103Z	V R(SUB PHASE)	10kΩ	

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R6001	NRSA02J-750X	MG R	75Ω 1/10W J	
	R6002	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6003	NRSA02J-473X	MG R	47kΩ 1/10W J	
	R6004	NRSA02J-333X	MG R	33kΩ 1/10W J	
	R6005	NRSA02J-103X	MG R	10kΩ 1/10W J	
	R6006	NRSA02J-750X	MG R	75Ω 1/10W J	
	R6007	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6008	NRSA02J-473X	MG R	47kΩ 1/10W J	
	R6009	NRSA02J-333X	MG R	33kΩ 1/10W J	
	R6010	NRSA02J-103X	MG R	10kΩ 1/10W J	
	R6011-12	NRSA02J-750X	MG R	75Ω 1/10W J	
	R6013	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6014	NRSA02J-473X	MG R	47kΩ 1/10W J	
	R6015	NRSA02J-333X	MG R	33kΩ 1/10W J	
	R6016	NRSA02J-103X	MG R	10kΩ 1/10W J	
	R6017	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6018	NRSA02J-750X	MG R	75Ω 1/10W J	
	R6019	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6020	NRSA02J-223X	MG R	22kΩ 1/10W J	
	R6021	NRSA02J-123X	MG R	12kΩ 1/10W J	
	R6022	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
	R6023	NRSA02J-750X	MG R	75Ω 1/10W J	
	R6024	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6025	NRSA02J-223X	MG R	22kΩ 1/10W J	
	R6026	NRSA02J-123X	MG R	12kΩ 1/10W J	
	R6027	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
	R6028	NRSA02J-750X	MG R	75Ω 1/10W J	
	R6029	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6030	NRSA02J-223X	MG R	22kΩ 1/10W J	
	R6031	NRSA02J-123X	MG R	12kΩ 1/10W J	
	R6032	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
	R6033	QRE122J-750	C R	75Ω 1/2W J	
	R6034	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6035	NRSA02J-223X	MG R	22kΩ 1/10W J	
	R6036	NRSA02J-473X	MG R	47kΩ 1/10W J	
	R6037	NRSA02J-682X	MG R	6.8kΩ 1/10W J	
	R6038	NRSA02J-224X	MG R	220kΩ 1/10W J	
	R6039-41	NRSA02J-102X	MG R	1kΩ 1/10W J	
	R6042	NRSA02J-562X	MG R	5.6kΩ 1/10W J	
	R6043-44	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
	R6045	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6046	NRSA02J-223X	MG R	22kΩ 1/10W J	
	R6047	NRSA02J-104X	MG R	100kΩ 1/10W J	
	R6048-49	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6060-62	NRSA02J-103X	MG R	10kΩ 1/10W J	
	R6063	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6101	NRSA02J-101X	MG R	100Ω 1/10W J	
	R6102	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
	R6103	NRSA02J-102X	MG R	1kΩ 1/10W J	
	R6104	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
	R6105	NRSA02J-332X	MG R	3.3kΩ 1/10W J	
	R6107	NRSA02J-102X	MG R	1kΩ 1/10W J	
	R6108	NRSA02J-391X	MG R	390Ω 1/10W J	
	R6109	NRSA02J-681X	MG R	680Ω 1/10W J	
	R6110	NRSA02J-821X	MG R	820Ω 1/10W J	
	R6112	NRSA02J-152X	MG R	1.5kΩ 1/10W J	
	R6113	NRSA02J-681X	MG R	680Ω 1/10W J	
	R6114	NRSA02J-471X	MG R	470Ω 1/10W J	

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R6115	NRSA02J-330X	MG R	33Ω 1/10W	J
	R6116	NRSA02J-471X	MG R	470Ω 1/10W	J
	R6117	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6118	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6119	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6120	NRSA02J-183X	MG R	18kΩ 1/10W	J
	R6121	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6122	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6123	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6124	NRSA02J-183X	MG R	18kΩ 1/10W	J
	R6125	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6126	NRSA02J-183X	MG R	18kΩ 1/10W	J
	R6127-28	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6129	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6130	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6131	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6132	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6133-34	NRSA02J-561X	MG R	560Ω 1/10W	J
	R6135	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6136	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6137	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6138	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6139	NRSA02J-561X	MG R	560Ω 1/10W	J
	R6140	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6141	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6142	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6143	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6151	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6153	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6154-55	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6156	NRSA02J-153X	MG R	15kΩ 1/10W	J
	R6157-58	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6160	NRSA02J-221X	MG R	220Ω 1/10W	J
	R6161	NRSA02J-105X	MG R	1MΩ 1/10W	J
	R6162	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6163	NRSA02J-391X	MG R	390Ω 1/10W	J
	R6164	NRSA02J-224X	MG R	220kΩ 1/10W	J
	R6170	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
	R6172	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6173	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
	R6174	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6175	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6176	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6177	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6178	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6179	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6180	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
	R6201	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6202	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6203	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6204	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6205	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6206	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6207	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6208	NRSA02J-333X	MG R	33kΩ 1/10W	J
	R6209	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6210	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6211	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6212	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6213	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6214	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6215	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6216	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6217	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6220	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6221	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6222	NRSA02J-333X	MG R	33kΩ 1/10W	J
	R6223	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6224	NRSA02J-333X	MG R	33kΩ 1/10W	J

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R6225	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6226	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6227	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6228	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
	R6229	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6232-33	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6234	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6241	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6242	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6243	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
	R6245	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6246	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6247	NRSA02J-822X	MG R	8.2kΩ 1/10W	J
	R6249	NRSA02J-471X	MG R	470Ω 1/10W	J
	R6250-51	NRSA02J-391X	MG R	390Ω 1/10W	J
	R6252	NRSA02J-224X	MG R	220kΩ 1/10W	J
	R6253	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6254	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6255	NRSA02J-684X	MG R	680kΩ 1/10W	J
	R6256	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6257	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6258	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6259	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6261	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
	R6263	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
	R6266-67	NRSA02J-473X	MG R	47kΩ 1/10W	J
	R6268	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
	R6269	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6270-71	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6272	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
	R6274	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6277	NRSA02J-225X	MG R	2.2MΩ 1/10W	J
	R6401	NRSA02J-153X	MG R	15kΩ 1/10W	J
	R6402	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6403-04	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6405	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6406	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6407	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6408	NRSA02J-182X	MG R	1.8kΩ 1/10W	J
	R6513	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6514	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6515	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6516	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6517	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6518	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6519	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6520	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6521	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6522	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6523	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6524	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6525	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6526	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6527	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6528	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6530-31	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6532	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6533-34	NRSA02J-563X	MG R	56kΩ 1/10W	J
	R6535	NRSA02J-333X	MG R	33kΩ 1/10W	J
	R6536	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6537	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6538	NRSA02J-272X	MG R	2.7kΩ 1/10W	J
	R6539	NRSA02J-391X	MG R	390Ω 1/10W	J
	R6540-41	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6542	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6543	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6544	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6545	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6546	NRSA02J-331X	MG R	330Ω 1/10W	J

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R6547	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6548	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6549	NRSA02J-271X	MG R	270Ω 1/10W	J
	R6550	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6551	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6553	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6555	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6556-58	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6559-60	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6561	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6562	NRSA02J-391X	MG R	390Ω 1/10W	J
	R6563-68	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6569	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6570	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6571	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
	R6572	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6573	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6574	NRSA02J-271X	MG R	270Ω 1/10W	J
	R6575	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6577	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6578	NRSA02J-224X	MG R	220kΩ 1/10W	J
	R6601	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6602	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6603	NRSA02J-122X	MG R	1.2kΩ 1/10W	J
	R6604-06	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6607	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6608	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6609	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6610	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6611	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6612-13	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6614	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6615	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6616	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6628	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6629	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6630	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6631	NRSA02J-182X	MG R	1.8kΩ 1/10W	J
	R6632	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6633-34	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6635	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6636	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6637	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6638	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6639	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6640	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6641	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6642	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6643	NRSA02J-182X	MG R	1.8kΩ 1/10W	J
	R6645	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6646	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6647	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6648	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6649	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6650	NRSA02J-271X	MG R	270Ω 1/10W	J
	R6651	NRSA02J-182X	MG R	1.8kΩ 1/10W	J
	R6653	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6654	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6655	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6656	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6657	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6658	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6659	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6660	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6661	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6662	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6663	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6664	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6665	NRSA02J-223X	MG R	22kΩ 1/10W	J

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	R6666	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6667	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6668	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6669	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6670	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6671	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6672	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6673	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6674-75	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6676-77	NRSA02J-221X	MG R	220Ω 1/10W	J
	R6678	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6679	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6680	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6681	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6682-84	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6685-86	NRSA02J-125X	MG R	1.2MΩ 1/10W	J
	R6687-88	NRSA02J-563X	MG R	56kΩ 1/10W	J
	R6689	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6701-06	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6707-12	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6713-16	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6717-19	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6720-21	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6722-23	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6724-25	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6726-27	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
	R6728-29	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6730	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6731-32	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6733	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6734-37	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6739-40	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6741	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6742-45	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6746	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6747-49	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6750	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6751	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6755-62	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6763-67	NRSA02J-221X	MG R	220Ω 1/10W	J
	R6801	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6802	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6803	NRSA02J-101X	MG R	100Ω 1/10W	J
	R6804	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6805	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6806-07	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6808	NRSA02J-153X	MG R	15kΩ 1/10W	J
	R6809	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6810	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6811	NRSA02J-223X	MG R	22kΩ 1/10W	J
	R6812	NRVA02D-102X	MF R	1kΩ 1/10W	D
	R6814	NRVA02D-682X	MF R	6.8kΩ 1/10W	D
	R6815	NRSA02J-104X	MG R	100kΩ 1/10W	J
	R6816	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6817	NRSA02J-332X	MG R	3.3kΩ 1/10W	J
	R6818-19	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6820	NRVA02D-102X	MF R	1kΩ 1/10W	D
	R6822	NRVA02D-472X	MF R	4.7kΩ 1/10W	D
	R6824	NRSA02J-472X	MG R	4.7kΩ 1/10W	J
	R6825	NRSA02J-153X	MG R	15kΩ 1/10W	J
	R6826	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6827	NRSA02J-103X	MG R	10kΩ 1/10W	J
	R6828	NRVA02D-152X	MF R	1.5kΩ 1/10W	D
	R6830	NRVA02D-152X	MF R	1.5kΩ 1/10W	D
	R6832	NRSA02J-222X	MG R	2.2kΩ 1/10W	J
	R6833	NRSA02J-152X	MG R	1.5kΩ 1/10W	J
	R6834	NRSA02J-102X	MG R	1kΩ 1/10W	J
	R6835	NRSA02J-681X	MG R	680Ω 1/10W	J
	R6836	NRSA02J-222X	MG R	2.2kΩ 1/10W	J

⚠ Symbol No.	Part No.	Part Name	Description	Local

RESISTOR

⚠ Symbol No.	Part No.	Part Name	Description	Local
R6837	NRSA02J-102X	MG R	1kΩ 1/10W	J
R6838	NRSA02J-103X	MG R	10kΩ 1/10W	J
R6839	NRSA02J-474X	MG R	470kΩ 1/10W	J
R6840	NRSA02J-103X	MG R	10kΩ 1/10W	J
R6841	NRSA02J-474X	MG R	470kΩ 1/10W	J
R6842	NRSA02J-0R0X	MG R	0.0Ω 1/10W	J
R6861-62	NRSA02J-102X	MG R	1kΩ 1/10W	J
R6863	NRSA02J-682X	MG R	6.8kΩ 1/10W	J
R6864-65	NRSA02J-102X	MG R	1kΩ 1/10W	J
R6866	NRSA02J-682X	MG R	6.8kΩ 1/10W	J

CAPACITOR

⚠ Symbol No.	Part No.	Part Name	Description	Local
C6001	QETN1HM-475Z	E CAP.	4.7μF 50V	M
C6002	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6003	QETN1HM-475Z	E CAP.	4.7μF 50V	M
C6004	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6005	QETN1HM-475Z	E CAP.	4.7μF 50V	M
C6006	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6007	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6008	QETN1HM-226Z	E CAP.	22μF 50V	M
C6009	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6010	QETN1HM-226Z	E CAP.	22μF 50V	M
C6011	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6012	QETN1HM-226Z	E CAP.	22μF 50V	M
C6013	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6014	QETN1HM-225Z	E CAP.	2.2μF 50V	M
C6015	QENC1HM-225Z	BP E CAP.	2.2μF 50V	M
C6016	QETN1EM-476Z	E CAP.	47μF 25V	M
C6017	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6018-19	NCB21CK-474X	C CAP.	0.47μF 16V	K
C6020	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6021-22	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6023-27	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6028	NCB21CK-474X	C CAP.	0.47μF 16V	K
C6029	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6030	QETN1HM-226Z	E CAP.	22μF 50V	M
C6031	NCB21CK-474X	C CAP.	0.47μF 16V	K
C6032	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6033	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6034	QETN1CM-107Z	E CAP.	100μF 16V	M
C6035	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6036	QETN1CM-107Z	E CAP.	100μF 16V	M
C6060-62	QETN1HM-225Z	E CAP.	2.2μF 50V	M
C6063-65	NDC21HJ-151X	C CAP.	150pF 50V	J
C6101	QETN1EM-476Z	E CAP.	47μF 25V	M
C6102	NDC21HJ-330X	C CAP.	33pF 50V	J
C6104	QENC1CM-226Z	BP E CAP.	22μF 16V	M
C6105	QETN1HM-226Z	E CAP.	22μF 50V	M
C6109	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6110	QETN1CM-107Z	E CAP.	100μF 16V	M
C6151	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6152	NDC21HJ-560X	C CAP.	56pF 50V	J
C6153	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6154	NDC21HJ-180X	C CAP.	18pF 50V	J
C6155	QENC1HM-105Z	BP E CAP.	1μF 50V	M
C6156	QETN1CM-107Z	E CAP.	100μF 16V	M
C6157	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6160	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6201	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6203	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6204	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6205-06	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6208	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6209	NDC21HJ-8R0X	C CAP.	8.0pF 50V	J
C6210	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6211	QETN1CM-107Z	E CAP.	100μF 16V	M
C6212	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6213	QETN1CM-107Z	E CAP.	100μF 16V	M

⚠ Symbol No.	Part No.	Part Name	Description	Local

CAPACITOR

⚠ Symbol No.	Part No.	Part Name	Description	Local
C6241-42	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6243	NDC21HJ-680X	C CAP.	68pF 50V	J
C6245	NDC21HJ-151X	C CAP.	150pF 50V	J
C6246-47	NDC21HJ-221X	C CAP.	220pF 50V	J
C6248	NCB21HK-273X	C CAP.	0.027μF 50V	K
C6249	QETN1HM-474Z	E CAP.	0.47μF 50V	M
C6250	QETN1CM-107Z	E CAP.	100μF 16V	M
C6251	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6252	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6253	QENC1EM-106Z	BP E CAP.	10μF 25V	M
C6254	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6255	NDC21HJ-100X	C CAP.	10pF 50V	J
C6257	NDC21HJ-100X	C CAP.	10pF 50V	J
C6259	NDC21HJ-470X	C CAP.	47pF 50V	J
C6260	NDC21HJ-101X	C CAP.	100pF 50V	J
C6264-65	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6401	NDC21HJ-101X	C CAP.	100pF 50V	J
C6402	NCB21HK-103X	C CAP.	0.01μF 50V	K
C6403	QETN1EM-476Z	E CAP.	47μF 25V	M
C6404	QENC1CM-226Z	BP E CAP.	22μF 16V	M
C6504	QETN1CM-107Z	E CAP.	100μF 16V	M
C6505	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6506	QFV71HJ-224Z	MF CAP.	0.22μF 50V	J
C6507	NCB21HK-222X	C CAP.	2200pF 50V	K
C6508	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6509	NCB21CK-474X	C CAP.	0.47μF 16V	K
C6510	QETN1HM-225Z	E CAP.	2.2μF 50V	M
C6511	NCB21HK-223X	C CAP.	0.022μF 50V	K
C6512	QETN1HM-106Z	E CAP.	10μF 50V	M
C6513	QETN1CM-107Z	E CAP.	100μF 16V	M
C6514	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6515-22	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6523	QETN1CM-107Z	E CAP.	100μF 16V	M
C6524	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6525	QETN1CM-107Z	E CAP.	100μF 16V	M
C6526	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6527	QETN1HM-225Z	E CAP.	2.2μF 50V	M
C6528-30	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6531	NCB21CK-474X	C CAP.	0.47μF 16V	K
C6532	QETN1HM-225Z	E CAP.	2.2μF 50V	M
C6533	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6534	QETN1HM-475Z	E CAP.	4.7μF 50V	M
C6535	QETN1CM-107Z	E CAP.	100μF 16V	M
C6536	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6537-38	NDC21HJ-120X	C CAP.	12pF 50V	J
C6539	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6540	QETN1HM-105Z	E CAP.	1μF 50V	M
C6541-42	QETN1EM-476Z	E CAP.	47μF 25V	M
C6601	NDC21HJ-390X	C CAP.	39pF 50V	J
C6602	NDC21HJ-8R0X	C CAP.	8.0pF 50V	J
C6603	NDC21HJ-181X	C CAP.	180pF 50V	J
C6604	NDC21HJ-390X	C CAP.	39pF 50V	J
C6605	NDC21HJ-8R0X	C CAP.	8.0pF 50V	J
C6606	NDC21HJ-181X	C CAP.	180pF 50V	J
C6607-08	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6609	QETN1CM-107Z	E CAP.	100μF 16V	M
C6610	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6611-12	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6613	QETN1HM-106Z	E CAP.	10μF 50V	M
C6614-15	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6616	QENC1HM-474Z	BP E CAP.	0.47μF 50V	M
C6617	QETN1CM-107Z	E CAP.	100μF 16V	M
C6618	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6619	QENC1HM-474Z	BP E CAP.	0.47μF 50V	M
C6620-22	QETN1HM-105Z	E CAP.	1μF 50V	M
C6623-27	NCB21EK-104X	C CAP.	0.1μF 25V	K
C6628-32	QENC1CM-336Z	BP E CAP.	33μF 16V	M
C6633	QETN1CM-107Z	E CAP.	100μF 16V	M
C6634	NCF21HZ-104X	C CAP.	0.1μF 50V	Z
C6635	QENC1CM-336Z	BP E CAP.	33μF 16V	M
C6636-37	NDC21HJ-101X	C CAP.	100pF 50V	J

CAPACITOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	C6701	QENC1EM-106Z	BP E CAP.	10µF 25V M	
	C6702	NDC21HJ-560X	C CAP.	56pF 50V J	
	C6703	NDC21HJ-680X	C CAP.	68pF 50V J	
	C6704	QETN1CM-107Z	E CAP.	100µF 16V M	
	C6705	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6706	QETN1CM-227Z	E CAP.	220µF 16V M	
	C6707-08	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6709	QETN1EM-227Z	E CAP.	220µF 25V M	
	C6710	QETN1HM-225Z	E CAP.	2.2µF 50V M	
	C6801	NDC21HJ-681X	C CAP.	680pF 50V J	
	C6802	NDC21HJ-102X	C CAP.	1000pF 50V J	
	C6803	NDC21HJ-681X	C CAP.	680pF 50V J	
	C6804	NDC21HJ-102X	C CAP.	1000pF 50V J	
	C6805	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6806	QETN1CM-107Z	E CAP.	100µF 16V M	
	C6807	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6808	QETN1CM-107Z	E CAP.	100µF 16V M	
	C6809	NDC21HJ-331X	C CAP.	330pF 50V J	
	C6810	NDC21HJ-102X	C CAP.	1000pF 50V J	
	C6811-12	NDC21HJ-221X	C CAP.	220pF 50V J	
	C6861-62	NDC21HJ-101X	C CAP.	100pF 50V J	
	C6901	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6902-03	QETN1CM-107Z	E CAP.	100µF 16V M	
	C6904-05	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6906	QETN1CM-107Z	E CAP.	100µF 16V M	
	C6909	NCF21HZ-104X	C CAP.	0.1µF 50V Z	
	C6910-11	QETN1CM-107Z	E CAP.	100µF 16V M	
	C6912	NCF21HZ-104X	C CAP.	0.1µF 50V Z	

TRANSFORMER

⚠	Symbol No.	Part No.	Part Name	Description	Local
	T6241	QQR1018-001	I.F.TRANSFORMER		

COIL

⚠	Symbol No.	Part No.	Part Name	Description	Local
	L6101	QQL244K-220Z	PEAKING COIL	22µH	
	L6151	QQL244K-5R6Z	PEAKING COIL	5.6µH	
	L6152	QQL244K-270Z	PEAKING COIL	27µH	
	L6241	QQL244K-8R2Z	PEAKING COIL	8.2µH	
	L6601-02	QQL244K-820Z	PEAKING COIL	82µH	
	L6701	QQL244K-4R7Z	PEAKING COIL	4.7µH	
	L6702	QQL244K-8R2Z	PEAKING COIL	8.2µH	

DIODE

⚠	Symbol No.	Part No.	Part Name	Description	Local
	D6001-06	MA111-X	SI.DIODE		
	D6007	MA3091/M/-X	ZENER DIODE		
	D6008-18	MA111-X	SI.DIODE		
	D6101	MA111-X	SI.DIODE		
	D6401-02	MA111-X	SI.DIODE		
	D6501-10	MA111-X	SI.DIODE		
	D6511	MA3068/M/-X	ZENER DIODE		
	D6514-18	MA111-X	SI.DIODE		
	D6702-04	MA111-X	SI.DIODE		
	D6705-07	MA3051/M/-X	ZENER DIODE		
	D6708	MA111-X	SI.DIODE		
	D6709	MA3120/M/-X	ZENER DIODE		
	D6710-11	MA111-X	SI.DIODE		
	D6801-04	MA111-X	SI.DIODE		
	D6861-64	MA111-X	SI.DIODE		

TRANSISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	Q6001-11	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6101-05	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6106	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6001-11	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6101-05	2SC2412K/QR/-X	SI.TRANSISTOR		

TRANSISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
	Q6106	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6107	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6108-09	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6110-11	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6112	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6113-15	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6151-53	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6154	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6155	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6156	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6158-60	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6201-04	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6206-08	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6210	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6211	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6241-43	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6244	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6401	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6402	2SA965/OY/-T	SI.TRANSISTOR		
	Q6504-09	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6510-11	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6512-15	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6516-17	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6518-20	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6521	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6522	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6523	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6524	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6601-08	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6609	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6610-20	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6622	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6623-24	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6701-06	DTA124EKA-X	DIGI.TRANSISTOR		
	Q6707	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6708-09	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6710-11	DTC124EKA-X	DIGI.TRANSISTOR		
	Q6712	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6801-03	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6804	2SA1037AK/QR/-X	SI.TRANSISTOR		
	Q6805-11	2SC2412K/QR/-X	SI.TRANSISTOR		
	Q6861-62	2SA1037AK/QR/-X	SI.TRANSISTOR		

IC

⚠	Symbol No.	Part No.	Part Name	Description	Local
	IC6001	MM1311BD	I.C.(MONO-ANA)		
	IC6002	TC4053BF/N/-XE	I.C.(DIGI-MOS)		
	IC6241	AN5625N	I.C.(MONO-ANA)		
	IC6501	TC4053BF/N/-XE	I.C.(DIGI-MOS)		
	IC6502	TA1276AN	I.C.(MONO-ANA)		
	IC6601	TA8772AN	I.C.(MONO-ANA)		
	IC6602	TC4053BF/N/-XE	I.C.(DIGI-MOS)		
	IC6701	M37212M8-057SP	I C		
	IC6702	AT24C08-1750PND	I.C.	(SERVICE)	
	IC6703	L78LR05E-MA	I.C.(MONO-ANA)		
	IC6801-03	TC4538BF/N/-XE	I.C.(DIGI-MOS)		
	IC6901	BA17809T	I.C.(MONO-ANA)		
	IC6903	BA17805T	I.C.(MONO-ANA)		

OTHERS

⚠	Symbol No.	Part No.	Part Name	Description	Local
⚠	CP6901	ICP-N10-Y	I.C.PROTECT		
⚠	CP6903	ICP-N10-Y	I.C.PROTECT		
	DL6101	CE42106-001J1	DELAY LINE		
	DL6241	CE41489-001	DELAY LINE(1H)		
	FL6201	CE41301-001J1	BANDPASS FILTER		
	FL6202	CELT034-002	B.PASS TRANSF.		
	J6001-02	CEM8021-002	BNC CONNECTOR		
	J6003-04	QMD2B04-001	MINI CONNECTOR		
	J6005-06	CEMB021-002	BNC CONNECTOR		
	J6007-08	CEMN036-005	PIN JACK		
	MD6151	QAX0581-001	COMB FILTER		

⚠	Symbol No.	Part No.	Part Name	Description	Local

OTHERS

⚠	Symbol No.	Part No.	Part Name	Description	Local
	PSMADE	CEMS009-052	I.C.SOCKET		
	PSMADE	CEMS007-008	I.C.SOCKET		
	S6241	QSS1A22-C04	SLIDE SWITCH	(APC SW)	
	TC6103	QAT7003-450	TRIM.CAP.	45pF 100V	
	TC6256	QAT7003-450	TRIM.CAP.	45pF 100V	
	TC6258	QAT7003-450	TRIM.CAP.	45pF 100V	
	W6501	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6523	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6641	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6648	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6660	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6720	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6731	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6749	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6811	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6829-35	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6837-38	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6843-44	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6849-50	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6852-54	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6859-60	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6862	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6865	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6877	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6879-80	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6883-85	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6890	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	W6893-95	NRSA02J-0R0X	MG R	0.0Ω 1/10W J	
	X6241	CE40749-001Z	CRYSTAL		
	X6242	CE40668-001Z	CRYSTAL		
	X6501	CE40749-001Z	CRYSTAL		
	X6502	CE40668-001Z	CRYSTAL		
	X6503	CSB503F30-T2	CER.RESONATOR		
	X6701	CST8.00MTW	CER.RESONATOR		

LINE FILTER PW BOARD ASS'Y (FX-9068A-H2)

RESISTOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
⚠	R9901	QRF154J-680	UNF R	68 Ω 15W J	

CAPACITOR

⚠	Symbol No.	Part No.	Part Name	Description	Local
⚠	C9901	QFZ9036-104	MF CAP.	0.1μFAC250V M	
⚠	C9902	QFZ9036-104	MF CAP.	0.1μFAC250V M	
⚠	C9903	QFZ9036-104	MF CAP.	0.1μFAC250V M	

OTHERS

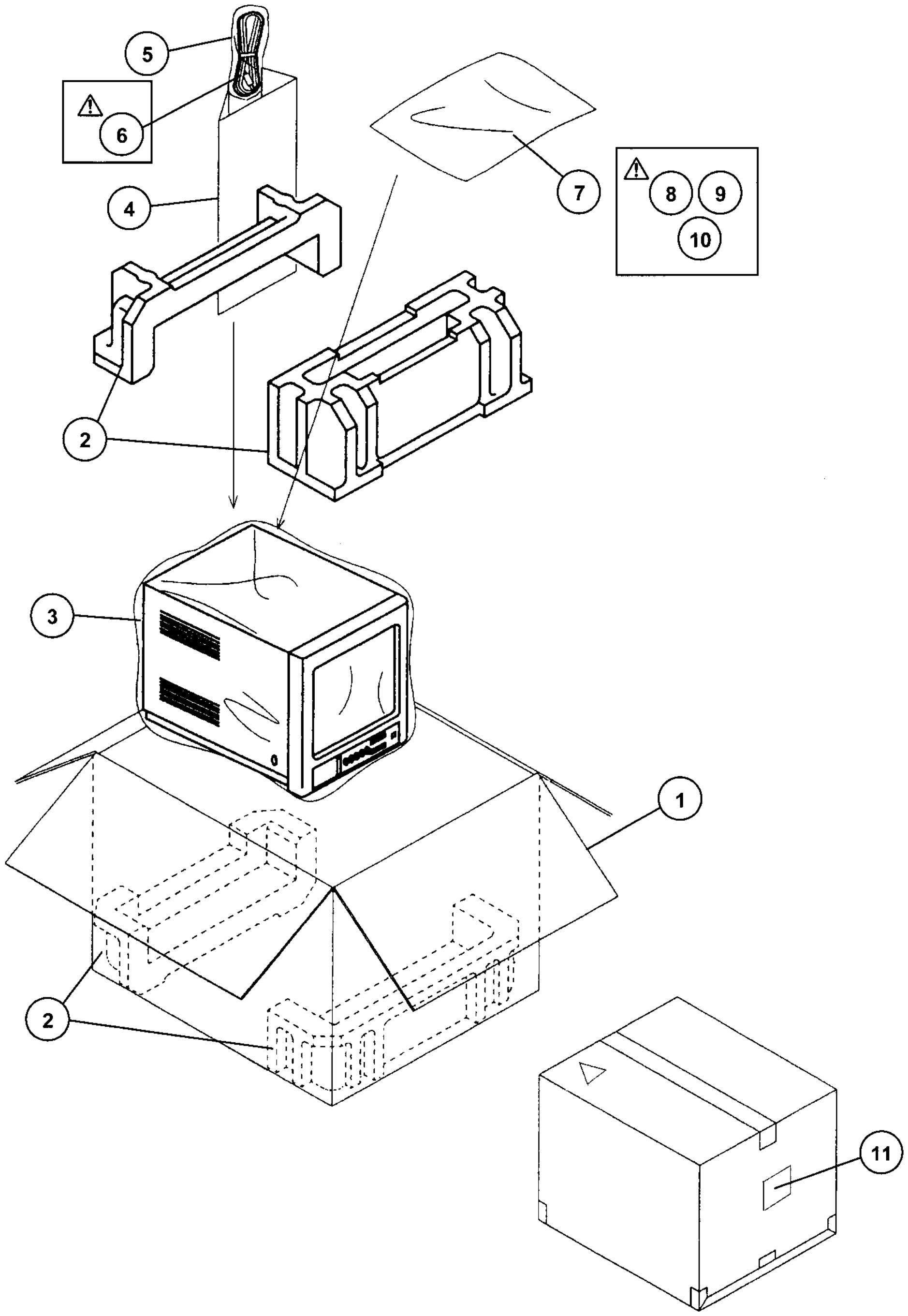
⚠	Symbol No.	Part No.	Part Name	Description	Local
		CM48239-001-H	INLET BKT		
		CEMG002-001Z	FUSE CLIP		
⚠	CN9003	QGBA001J1-04	B TO B CONNE		
⚠	CN9004	QGBA001J1-04	B TO B CONNE		
⚠	CN9014	QGA7901C1-04	W TO B CONNE		
⚠	CN9015	WJK0080-001B	E-SI C WIRE C-B		
⚠	CN9DEG	QGA7901F1-02	VH POST HEADER		
⚠	F9901	QMF51D2-3R15J1	FUSE	3.15A	
⚠	J9901	QMCB006-C01	AC INLET		
⚠	LF9901	CELF001-001J1	LINE FILTER		
⚠	LF9902	CELF010-001J6	LINE FILTER		
⚠	TH9901	CEKP002-003	W.P.THERMISTOR		

COMPO. SW MODULE PW BOARD ASS'Y (FX-M014A-H2)

OTHERS

⚠	Symbol No.	Part No.	Part Name	Description	Local
		FX-M014A-H2	COMPO. SW MODULE PWB		

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	LC10453-088A-H	PACKING CASE		
	2	CP11658-00C-H	CUSHION ASSY	4pcs in 1set	
	3	CP30974-004	POLY BAG		
	4	LC40092-001A	POWER CORD CASE		
	5	QPA01203005	POLY BAG		
⚠	6	QMP1110-244K	POWER CORD		
	7	CP30966-001-H	POLY BAG		
⚠	8	LCT0725-001A-H	INST BOOK		
	9	BT-51010-2	WARRANTY CARD		
	10	BT-20104A	SERVICE CARD		
	11	CP30702-001	REC KEEPING CARD		

MEMO

MEMO

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

Head office : 1700 Valley Road, Wayne, New Jersey 07470 (973)315-5000
East Coast : 10 New Maple Avenue, Pine Brook, New Jersey 07058 (973)396-1000
Midwest : 705 Enterprise St. Aurora, Illinois 60504 (630)851-7855
West Coast: 5665 Corporate Avenue, Cypress, California 90630 (714)229-8011
Southwest : 10700 Hammerly, Suite 105, Houston,Texas 77043 (713)935-9331
Hawaii : 2969 Mapunapuna Place, Honolulu, Hawaii 96819 (808)833-5828
Southeast : 1500 Lakes Parkway, Lawrenceville, Georgia 30243 (770)339-2582

JVC CANADA INC.

Head office: 21 Finchdene Square Scarborough, Ontario M1X 1A7 (416)293-1311
Vancouver : 13040 Worster Court Richmond B.C. V6V 2B3 (604)270-1311

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